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ABSTRACT

The two-part set consists of a student handbook and a related teachers' handbook in allied health education for use at the eleventh grade level. The student handbook consists of five units related to health care services: (1) introduction to allied health and the concept of the health care team, (2) medical technology, (3) nutrition, (4) rehabilitation, and (5) nursing. Each unit provides learning activities and exercises for obtaining knowledge and skills in various health occupations and to acquire information on their roles in the field of health care services. The exercises provided in the student handbook are referred to in the teachers' handbook, which focuses on the same units provided in the student handbook. Each unit presents suggestions for learning processes, activities, notes, and materials. (EC)

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Allied Health Field

Eleventh Grade

INTRODUCTION TO ALLIED HEALTH AND THE HEALTH CARE TEAM

Operation TACT
Curriculum

CE007159

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ALLIED HEALTH FIELD

11TH GRADE CURRICULUM

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UNIT I

INTRODUCTION TO ALLIED HEALTH AND THE CONCEPT OF THE HEALTH CARE TEAM

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UNIT

I Introduction to Allied Health and the Concept of the Health Care Team

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INTRODUCTION TO ALLIED HEALTH AND THE CONCEPT OF THE HEALTH CARE TEAM

Questions: 1) *What is a Health Care Team and who are its members?*

2) *What types of skills and services do health team members perform?*

3) *Why is good co-operation and communication necessary for proper team functioning?*

4) *How do legal and ethical standards affect the functioning of the health professionals within the health team?*

This unit will help you define Allied Health and to identify the members of the Health Care Team. Its major areas cover the types of skills and abilities needed by the health team members and the legal (Lē - gul) and ethical (eth i kul) responsibilities the team shares in carrying out its work.

A legal responsibility means that people can be trusted to act within the law.

An ethical responsibility deals with values and the conduct of an individual or a group.

There are several ways to investigate the questions listed above. One way is to observe and to ask questions. A scientist would call this gathering Data (Day - tuh). Data is information. An observer must learn to record data very precisely or exactly. In order to come to conclusions about health needs and the health team, you must analyze (an - uh - lyz) or study this data carefully.

If this unit is successful, you will be able to:

1) *Make careful observations; gather data.*

2) *Record data precisely.*

3) *Analyze the data and make generalizations.*

4) *Define Allied Health and identify the members of the Health Care Team.*

5) *Discuss the importance of team co-operation in health care.*

6) *Explain how legal and ethical standards affect the Health Team's functioning.*

WHAT IS HEALTH?

Today, in order to arrive at a definition of health, your class is going to read and discuss some selected sections from The Dynamics of Health Care by Ruth M. French (New York: Mc Graw Hill, 1965).

As you read, try to think of your own definition. Be sure to underline any words or phrases that are not clear to you and that you would like explained.

---

1) "The most comprehensive definition of health is stated in the charter of the World Health Organization: 'that state of complete physical, mental and social well-being and not merely the absence of disease or infirmity.'" (Page 1)

2) "We have to face the fact that medical care is but one of the many elements contributing to health, even though an improvement in health (or a lack of it) is seen as a product of medically oriented effort. Success in dealing with problems of health is evaluated largely by such criteria of medical science as disease incidence and life expectancy. Even less precise, and more difficult to measure, are the profound influences of individual living habits, socio-economic status, attitudes, housing, education - the whole constellation of cultural and economic factors - on the degree of health enjoyed by our people." (Page 2)

3) "...health care can be a tremendous task, requiring efforts directed toward maintaining and, when needed, restoring balances within the individual and within the environment." (Page 2)

4) "Exposure to stress causes both damage (shock) and defense (countershock). Disease, as old as life itself, is life. It is a manifestation of life through the reactions of a total living organism to abnormal stimuli." (Page 3)

5) "Throughout the world the wealth of nations is predicated upon the health of its people." (Page 3)

6) "Economic prosperity is intimately associated with health. Hence, it is reasonable that programs of assistance to the developing nations of the world should include health care as one of their major points. To be sure, caring for the health of people is, in large measure, humanitarian, but its economic influence should not be overlooked. It is worth noting that Peace Corps members are trained not only to teach such fundamentals as reading or improving crop productivity, but also to participate in health-related activities appropriate to the areas in which they serve." (Page 3)

HEALTH CARE NEEDS - FILM

After you observe the film, try to record the answers to the questions below as precisely as you can.

1) *What kinds of people do you see helping patients?*

2) *What types of activities did the health workers in the film perform?*

3) *What skills were involved in these activities?*

HEALTH CARE NEEDS

You have just viewed a film showing the different types of health care needs in your community.

LIST the health needs you observed in the film.

Now add to your list any other needs you know about that were not shown in the film.

GROUP the items. Which 2 or 3 items would you put together in the same group?

Why are they related to each other?

Now group all of the items.

LABEL each group. Give each group a title or name that fits all of the group's members.

OPTIONAL: Bring in pictures or newspaper clippings that illustrate some of the items or groups you listed. Write a caption - label for each picture that would show which group it belongs to. Put these clippings and photographs in your notebook.

MASTERY SHEET #1

1) DATA is ______________________________

2) To analyze something is to ______________________

3) Another word for precise is ____________________

4) A simple definition of health is ________________

5) Three of the five major areas of health care are:

   1.

   2.

   3.

6) Names at least 5 important health care needs in your community.

TEAM ORGANIZATION - COMMUNICATION

For today's activity, the class will be divided into groups. Each group will have five members. Each group must sit together and away from the other group. The teacher will give each group a package of five envelopes in it. Each envelope contains pieces of paper that can be used to make large squares. The group's task is to make five squares, all the same size. Do not begin until the teacher says so.

There are a few things you can and cannot do during this activity:

1) No group members may speak after the game has begun;
2) No member may ask another member of the group for a piece of paper; no members can signal another member of the group to give him or her a piece of paper;
3) Members may give pieces of paper to other members of the same group.

To prepare for discussion of your "team" experience, think of the answers to the following questions:

1) *How successful was your group?*

2) *Did the rules of the game hurt the group's progress or help it?*

3) *Would the team have been more effective if you were allowed to communicate more freely?*

4) *Why is team work so important for successful completion of the task?*

CASE STUDY - IMPRESSIONS OF A HOSPITAL

Mrs. Brown, a quiet, middle-aged woman, was very frightened about going to the hospital. She knew she had to have a series of tests and possibly surgery.

When the day arrived that she was to be admitted, reluctantly she left the security of her home and arrived at City Hospital at 4 P.M. It was Sunday afternoon.

Abruptly she was processed through the Admissions Office to her hospital room. No one really seemed to care about how very alone she felt.

Doctor Smith had left orders for blood tests and x-rays to be done on Monday but the ward clerk was in a hurry and neglected to tell the charge nurse.

After a very unsettling Sunday with no one explaining anything to Mrs. Brown, Monday morning arrived and no blood work had been done, no x-rays had been carried out. The doctor was furious because his orders had not been heeded and Mrs. Brown was miserable. If this is the way the hospital was run, what would be the outcome if surgery was indicated?

ROLE-PLAYING OBSERVATION DATA SHEET

1) Define as precisely as you can the problems being presented.

2) How did each health professional handle his team responsibilities?

3) Suggest better and/or other ways each person could have demonstrated greater co-operation with the other members of his team.

4) What changes were made in dealing with the problem?

5) Do you think these changes are effective in solving the team's problems? What changes or alternative solutions would you have made?

ROLE-PLAYING OBSERVATION DATA SHEET

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4) *What changes were made in dealing with the problem?*

5) *Do you think these changes are effective in solving the team's problems? What changes or alternative solutions would you have made?*

ETHICAL AND LEGAL RESPONSIBILITIES

"PROPER VS. IMPROPER BEHAVIOR"

Over the next two days you are going to view two demonstration tapes.

Both tapes are about the experiences of a patient at a hospital for his first rehabilitative session with the physical therapist. Although both tapes depict the same situation, they are very different.

Watch Version One carefully and then, for homework, critique it.

What corrections, changes or alternative behavior could you suggest to improve the hospital situation?

After you and your classmates discuss the class suggestions, your teacher will show Version Two of the tape.

Were your observations about the errors in Version One accurate? How would you compare the two film segments?

OPTIONAL: Draw a set of cartoons or sketches contrasting an improper and a proper hospital situation. Be sure to write a caption for each one. If you choose to, you may create your cartoon by putting together magazine photographs.

THE CLIENT - PRACTITIONER RELATIONSHIP

When a person realizes he has a professional need, he often seeks the services of an appropriate, qualified person who can help him with his problem. The person who seeks the professional services of another is called a client (kli - ent). The professional person who gives or supplies the service is called a practitioner (prak - tish - eh - ner). For example, if you have shoes that need to be re-soled, you might bring them to a shoemaker. In this instance, you are the client and the shoemaker is the practitioner.

There are certain characteristics that apply to all client - practitioner relationships:

1. The client chooses to ask the practitioner for his services.
2. The client is "treated" by the practitioner until his problem is either eliminated or resolved.
3. The client goes to the practitioner with a specific goal in mind.
4. The relationship depends upon the performance of the people involved.
5. The client interacts on a one - to - one basis with the practitioner.

ASSIGNMENT:

Write a short paragraph characterizing the student as a client and the teacher as a practitioner. Use the criteria on page 12 for your comparison.

How well does the student - teacher relationship fit the criteria for a client - practitioner relationship?

Can you more easily describe the patient as a client? Why or why not?

THE PATIENT AS A CLIENT

RIGHTS AND RESPONSIBILITIES

AMERICAN HOSPITAL ASSOCIATION - PATIENT'S BILL OF RIGHTS:

The patient has the right to expect:

A) That he will receive services necessary to help him regain full health or maintain maximum degree of health.

B) That hose who serve him are qualified through education and experience and personality to carry out the services for which they are responsible.

C) That those serving him will be sensitive to his feeling and and responsive to his needs in planning and caring for him.

D) That within the limits determined by his physician he and/or his family will be informed about the significance of his illness and treatment so that he can help himself and his family can help and understand him.

E) That plans will be made with him (and his family if indicated) or for him so that continuing services will be available to him throughout his period of need and these plans will involve the use of all appropriate personnel and community resources.

F) That health care personnel will assist in keeping accurate records and will trust with confidence all personal matters.

G) That when such time comes, he will have a dignified death.

SUMMARY - REVIEW

MEDICAL ETHICS AND PERSONAL DIGNITY

Below are three incomplete paragraphs illustrating hospital situations. Complete each with an appropriate ending based on medical standards of ethics and dignity.

1. Feedings were over by nine o'clock that evening in the premature nursery. Jane settled back for a breather from her hectic schedule. Only one other nurse was on the preme floor that night. Just as she sat down, five young people entered through the nursery doors.

   "I'm sorry, only parents of children are allowed to visit. And, visiting hours were over at eight o'clock anyway. You'll have to leave, please."

   The group smiled and nodded, then walked past her to the incubators.

   "Please don't go in there! she tried again.

   One of the girls turned around and looked at Jane.

   "No comprendo nada."

   Jane understood. They only spoke Spanish. Still, they were breaking the rules. She ________________________________

   ____

   ____

   ____

   ____

2. A week before the State Basketball Tournement Jody hurt his right arm. His brother brought him to the hospital emergency room. He was concerned about Jody but, at the same time, he was furious that he had to cancel his date for that evening.

   "You jerk! Now everything's wrecked. Mom and Dad aren't home and I can't go out with Maria and you can't play in the final basketball games. Aren't you proud of yourself?"

   "Shut up! Jody snapped at him.

They sat together in silence until they were finally called over the loud speaker. An emergency room nurse pleasantly greeted Jody and asked him how he hurt himself.

"I don't want to talk about it, and DON'T TOUCH ME!
She backed off alittle and then tried again.
"I just want to see if..."
"Get out of here! Jody yelled.
Jody's brother was becoming more and more concerned.
"Jody, maybe its broken really bad. You better let her look at it."
The nurse was getting red in the face, but she tried to keep her composure. She ________________________________

____

____

____

____

3. Sally couldn't wait to leave work that day. She was going out with Bill at three o'clock, as soon as she got off of her shift. All of her work was done early, and she had her new dress ready in the nurse's lounge so she could slip out of her uniform quickly. At five of three she had completed her last routine checks with all of her patients - all but one. She entered Mr. Lopez's room slowly. He was doing poorly last check and the treatments weren't working as well as expected. She hesitated, took a deep breath, and walked in. No pulse. No heartbeat. Mr. Lopez had been dead for awhile. They had told her it was only a matter of time but she couldn't believe it had happened so suddenly.

"Sally," someone called from down the hall. "Bill is waiting for you."

It was the second shift relief nurse. Sally knew that the relief would have a lot of things to do when she first came on duty before she could find time to attend to Mr. Lopez. But Bill was waiting. Still, who would take care of the body? She ________

____

____

____

____

Stories written by:
Ms. Kathy Keena, August, 1973.

MASTERY SHEET

1) Team work is important for proper functioning of a hospital because ____

____

____

2) An ethical responsibility deals with ____________________

____

3) A client is someone who ____________________________

____

4) Two patient's rights, as outlined in the American Hospital Association's Patient Bill of Rights, are:

1.

2.

5) Why do you think the role of client and practitioner within a hospital are very specific and uniform throughout the country?

UNIT II

MEDICAL TECHNOLOGY

WHAT IS MEDICAL TECHNOLOGY?

"that brand of medicine concerned with the performance of the laboratory determination and analyses used in the diagnosis and treatment of disease and the maintenance of health." "These laboratory determinations and analyses are performed in the clinical laboratory by the medical technologist, a person who has obtained a sound foundation in the scientific principles involved and a proficiency in the performance of the test procedures." [1]

---

[1] M. Ruth Williams; An Introduction to The Profession of Medical Technology; Lea and Febiger; 1971; Philadelphia

MEDICAL TECHNOLOGY

OBJECTIVES:

1) Students will know the occupations included in the field of medical technology.

2) Students know how to determine blood types.

3) Students will be able to name some disabilities commonly requiring the assistance of a medical technologist.

4) Students will know the legalities related to performances in medical technology.

5) Students will be able to identify the equipment used in medical technology.

6) Students will demonstrate an awareness of the occupational areas within the field of medical technology.

MASTERY LIST

Your familiarity with the terminology below will increase your knowledge of the functions of a medical technologist.

immunology
bio-chemistry
pathology
serology
histology
hematology
virology
microbiology
blood bank
parasites
bacteria
autopsies
pharmaceutical
microscopes
automatic analyzers
cryostat
spectrophotometers
electronic
gas chromatographs
organisms
parasitology
anemia
hemophilia
Leukemia
antibiotic
cytotechnology
Papanicolaou ("pap" test)
urinalysis
cellular
radioisotope
centrifuges
colorimeters
autoclaves
microtomes

BRAINSTORMING

Your teacher will direct you in testing your knowledge of the pronunciation and definitions of the terms on the mastery list for Medical Technology.

FILM: MEDICAL TECHNOLOGY

You will view a film on medical technology. Record your observations as precisely as you can.

BRAINSTORMING

1) Discuss your observations from the film "Medical Technology" as it relates to words on the Mastery List.

2) Your teacher will give you a handout on medical technology to assist you in answering the question: *What is Medical Technology?*

GUEST SPEAKER

A Medical Technologist will speak to the class on general information related to the field of medical technology. Some of the areas to be covered will be:

A) Kinds of occupations in the field of medical technology:

  1) medical technologist
  2) medical
  3) medical lab technician
  4) clinical lab assistant
  5) pathologist

B) Some information on chemistry, measurement, and laboratory procedures will be given.

C) Handouts on medical technology will be distributed.

D) Job responsibilities will be given for each occupation.

BRAINSTORMING

The discussion will continue as the teacher points out to the class other tasks related to the field of medical technology for which one may qualify with further education.

a) Blood Bank Technologist

Certified medical technologists who have had additional training in an approved blood bank school.

They may work in a clinic, hospital, or blood bank center classifying, processing & storing blood they have collected from donors.

b) Cytotechnologist

Works under a pathologist. Is trained in special laboratory techniques for detecting body cell changes. Screen slides of cell samples looking for clues of diseases.

c) Nuclear Technologist

Diagnose diseases with the use of radioactive isotopes. Isotopes inserted or injected in the blood stream, tissue, or organ; Progress is followed by a device known as a scanner. They are involved mainly in laboratory work, doing analysis of tests.

d) Histologic technicians

Prepares body tissues for microscopic examination by the pathologist. Duties include cutting and staining tissues.

e) Certified laboratory assistants

Perform routine laboratory procedures in bacteriology, serology, hematology, urinalysis, blood banking, parasitology, and chemistry under the direct supervision of the medical technologist.

f) Chemistry technologist

Perform routine laboratory procedures on various substances which compare the universe and analysis of body fluids.

g) Microbiologist

1) Studies the growth of micro-organisms and works preventative methods to control these diseases such as

FACT SHEET

Some instruments and equipment used by the medical technologists are:

microtomes

distillation apparatus

centrifuge

microscopes

incubators

flasks

pipettes

condensors

test tubes

colorimeters

automated electronic analyzers

CONVERSION

The conversion between the metric system and the English measurement and how it relates to medical technology will be discussed.

It is important for you to learn the metric system if your future occupation is in a health related field. The entire health field is beginning to use the metric system more and more. For example, many hospitals , laboratories, and community health clinics use these measurements today.

Perhaps the biggest difference between the metric system and our English measurement system is that in the metric system all units have a uniform scale of relation based on a decimal.

Example: 1 meter = 100 decimeters
1 decimeter = 10 centimeters
1 centimeter = 10 millimeters

ACTIVITY

From your discussion on conversions of the english measurement system and the metric system, answer the following questions:

1. *What are the metric and english measurements for temperature called?*

2. *Why is the metric system preferred to the english measurement in the health field?*

3. *What is a flask?*

4. *How does the metric system relate to jobs in medical technology?*

GUEST SPEAKER

The Guest Speaker will demonstrate the use of the metric system while doing some scientific experiments.

After the demonstration you are invited to ask questions.

BRAINSTORMING

Blood Typing -

(a) The basic genetic theory will be introduced.

(b) There are many reasons for giving a blood test. Examples are listed below:

    (1) To determine a blood type in the event of the need for a blood transfusion.

    (2) Certain blood types, if mixed in conception, will produce abnormal offspring.

FACT SHEET

1) There are four groups or types of human blood. They are (1) A, (2) B, (3) AB, (4) O.

2) Mixing the wrong blood types can cause fatal injury.

3) A universal donor comes from Group O and a universal recipient comes from Group AB.

4) The four blood types are found in all races of man, even though they are inherited.

5) In our blood there is a substance called Rh factor which is classified into two groups: Rh-positive and Rh-negative. Rh-negative safely receives only Rh-positive transfusion.

6) It is very important for couples at the child-bearing age to know their blood types. If a mother has Rh-negative and the father Rh-positive any children after the first may be born seriously injured or die before or shortly after birth.

7) Additional information will be given to you on blood types and blood diseases by your teacher.

ACTIVITY

A demonstration will be given on blood typing. After the demonstration you will be provided with a blood typing kit to do some blood typing on your own.

QUESTIONS:

1) *What causes the disease leukeumia?*

2) *How does the Rh-factor affect our lives?*

3) *Define anemic.*

4) *Give the functions of blood in the body.*

5) *Why is blood plasma given in the place of blood?*

LECTURE

Cells and blood cells will be discussed. The importance of the microscope will be pointed out. During the lecture specific information will be given on cells and blood cells.

FACTS:

1) Cells are made up of several different combinations of elements. The most commonly known blood cells are red blood cells and the white blood cells.

2) The role of medical technology and it's related areas plays a major part in the treatment of diseased blood cells.

ORGANIZATION OF THE BODY

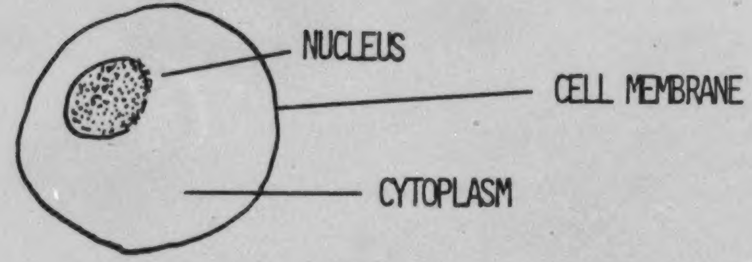
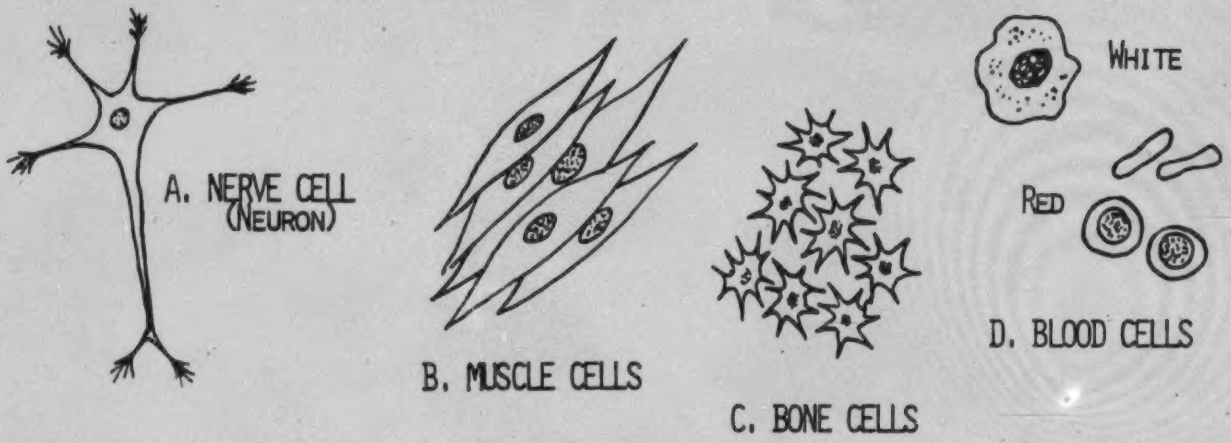

NUCLEUS
CELL MEMBRANE
CYTOPLASM

FIG. A THE CELL-BUILDING BLOCKS OF THE BODY



A. NERVE CELL (NEURON)

B. MUSCLE CELLS

C. BONE CELLS

D. BLOOD CELLS

FIG. B KINDS OF CELLS IN THE BODY

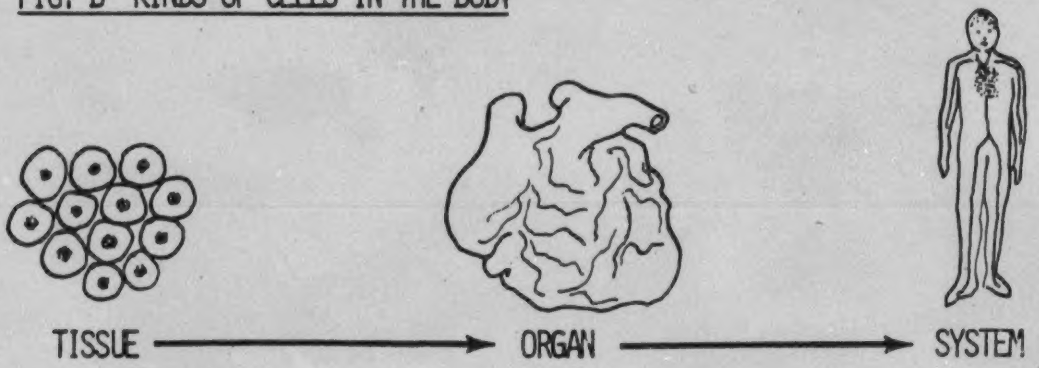

TISSUE
ORGAN
SYSTEM

FIG. C GROUPS OF CELLS

STUDENT ACTIVITY

1. Using the given symbols, write in Fig. B. the kind of cells used chiefly in the following situations: A) Lifting weights--LW, B) Seeing--S, C) Nose bleed--NB, D) Broken Arm--BA, E) Stubbing toe--ST, F) Handwriting--HW.

2. Groups of cells doing the same job form ____________. Groups of these performing the same job form an______________. Groups of these that do a similar job form a_________.

ACTIVITIES:

1) Comparing and Contrasting red and white cells on a slide.

2) Looking at the break up of red blood cells when placed in water as compared to red blood cells placed in saline.

ACTIVITY

You will be provided with samples of blood showing clotting and non-clotting(using anti-coagulants). These will be viewed under a microscope.

Comments:

ACTIVITY

DEMONSTRATION - BRAINSTORM

A laboratory setting will be provided for you to see various tests in areas such as:

A) Hematology

B) Microanalysis(urine)

C) Microbiology

D) Chemistry

E) Histology(tissue)

F) Cytology(smears)

G) Seriology(serum other than chemistry)

BRAINSTORMING

1) *What is diagnosis? (definition)*

2) *What is the medical technology team role function to the doctor?*

3) *Health care team and the function of diagnostic services in it.*

FILM

"DIAGNOSTIC SERVICES"

Record your observations as precisely as you can. Group the different types of occupations and list the kinds of accurate data each of them supplies the doctor.

ACTIVITY

You will view slides under a microscope showing types of bacteria. A culture of bacteria can be made from your hands (before and after washing.)

DISCUSSION:

1) Discuss the importance of accuracy in:

    a) testing

    b) recording

    c) reporting

2) List some kinds of mistakes that can cost loss of life.

3) List some mistakes that can cost loss of money.

ACTIVITY

1) You will be provided with lab forms to prepare.

DISCUSSION

2) Name some of the areas of employment.

FIELD TRIP

MT. SINAI HOSPITAL

A demonstration of the EKG and EEG machine will be given. The X-ray department will also be visited.

BRAINSTORMING

In every occupation there are the do's and don'ts -- the rights and wrongs. What are some legalities associated with Medical Technology?

1)

2)

3)

UNIT III

NUTRITION

OBJECTIVES:

1. Students should be able to identify and know the major food groups.
2. Students should be familiar with nutrition as it relates to health.
3. Students should be able to properly select what to eat.
4. Students should know the major disabilities requiring the assistance of a dietitian.
5. Students should know the major facilities requiring the employment of dietitians.
6. Students should become aware of the role of a dietitian in aiding patients.

MASTERY LIST

You are to become familiar with the words listed below as you study this unit. Terminology here is associated with nutrition.

amylopsin
atherosclerosis
biotin
calcium
calories
carbohydrates
cholesterol
clinical
colostrum
contamination
coronary
deficiency
dehydrated
deterioration
diabetes
diet
dietetic assistant
dietetic technician
dietitian
enzymes
esophagus
fats
flourine
gallbladder
glucose
glycerol
hemoglobin
hydrogen
hydrogenation
iodine
iodized salt
lactase
large intestine
linoleic acid
lipasc
liver
maltase
metabolism
milligrams
mineral
mouth
nitrogen
nutrients
nutrition
oxidation
pancreas
pantothenic acid
pepsin
pharynx
protein
ptyalin
pyridoxin
rennin
riboflavin
small intestine
stomach
sucrase
tongue
trypsin
vitamin

DIGESTIVE SYSTEM

The two major functions of the digestive system are digestion and absorption.

For our bodies to benefit from the food we eat it must be digested. Converting food to a state in which it is capable of being taken into the cells by way of the blood plasma is digestion. Absorption takes place when digested food is transferred to the bloodstream.

The alimentary canal and accessory organs are the two major groups of organs the digestive system will be divided into.

The mouth, the pharynx, the esophagus, the stomach, the small intestine and the large intestine help make up the muscular digestive tube extending through the body, which is known as the alimentary canal.

The liver, gallbladder and pancreas are the components of the accessory organs. They are vital to the digestive process in our body.

During the conversion process the complex food we eat is transferred into various kinds of chemical substances which are carried through the body in the form of blood plasma for the life and growth of the body cells.

Cells need certain basic materials to grow and remain healthy. Below are some of the basic materials needed.

a. Carbohydrates ---------- contain the elements carbon, hydrogen, and oxygen, and are found in sugar and starches.

b. Fats ------------------- high concentration fuel value, and in some cases carry important vitamins.

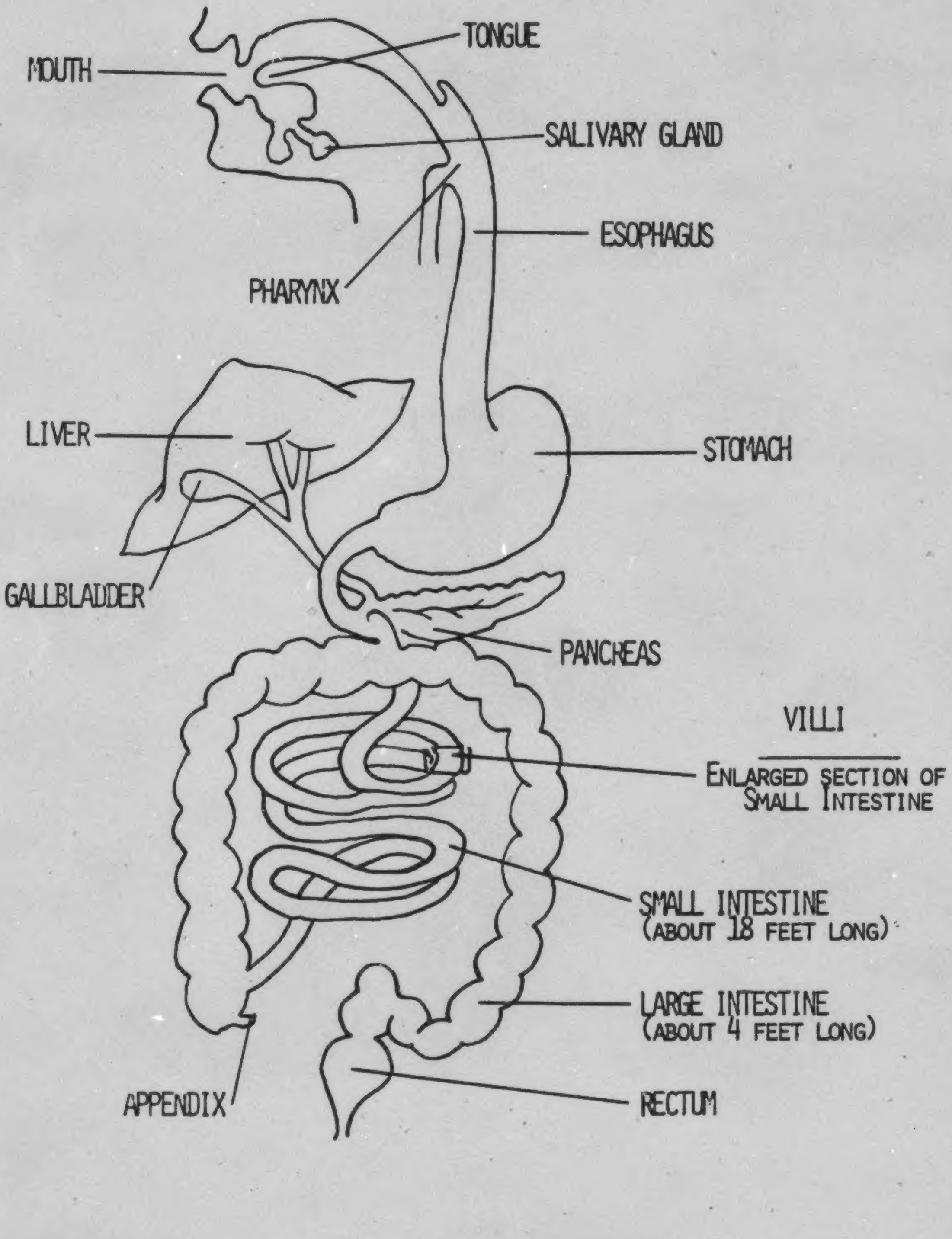
c. Proteins --------------- form the materials of which protoplasm is made.

d. Mineral salts ---------- maintain the proper conditions for osmosis in the cells, form a part of the body structure (as in bone), and play a large role in nerve responses and muscle contraction life processes.

e. Vitamins --------------- Food substances that are essential for good health. They help to regulate cell metabolism.

f. Water ------------------ The human body composition contains about 66 per cent water.

DIGESTIVE SYSTEM


TONGUE
MOUTH
SALIVARY GLAND
ESOPHAGUS
PHARYNX
LIVER
STOMACH
GALLBLADDER
PANCREAS
VILLI
ENLARGED SECTION OF SMALL INTESTINE
SMALL INTESTINE (ABOUT 18 FEET LONG)
LARGE INTESTINE (ABOUT 4 FEET LONG)
APPENDIX
RECTUM

BRAINSTORMING

From the diagram of the digestive system your teacher will brainstorm with you the functions of each organ.

Mouth

Pharynx

Esophagus

Liver

Gallbladder

Pancreas

Stomach

Small intestine

Large intestine

FILM: "FOOD: THE COLOR OF LIFE"

This film will serve as an introduction to the basic groups and will describe the kinds of food that we should eat.

PICTORIAL INTRODUCTION TO ALLIED HEALTH

FILM: "COLD BLUE"

Brainstorm with the students the different areas they viewed in the film:

1) *What were the major health areas covered?*

2) *How do these areas relate to your community health services?*

FILM: "HORIZONS UNLIMITED"

Brainstorm with the students the different areas they viewed in the film.

FILM: "FOOD THAT BUILT GOOD HEALTH"

After you observe the film, try to record the answers to the questions below as precisely as you can.

1) *What were the four major food groups seen in the film?*

2) *List three examples of food found in each of the first two groups.*

3) *List three kinds of food found in each of the last two groups.*

4) *Describe how the body uses nutrients from food.*

BRAINSTORMING

ORAL DISCUSSION

1) *What are good food habits?*

example - knowing what food becomes us; not confining ourselves to selections of our favorite foods when it is not nutritionally wise and valuable.

2) *What are poor food habits?*

example - eating only foods we want, regardless of what our body needs.

FILM: "HUMAN BODY: NUTRITION AND METABOLISM"

1) *Distinguish the difference between the basal metabolism and active metabolism.*

2) *Express the energy requirements of metabolism in units of calories.*

3) *Discuss the five classes of chemical substances which comprise all natural foods.*

    1.

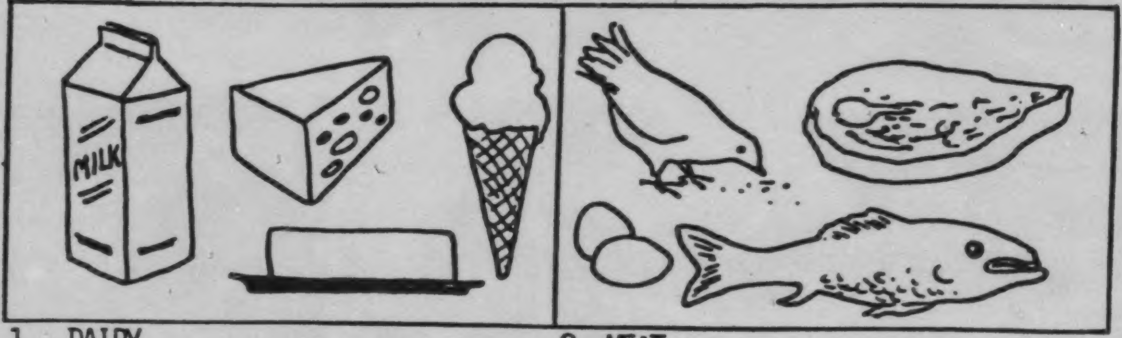
    2.

    3.

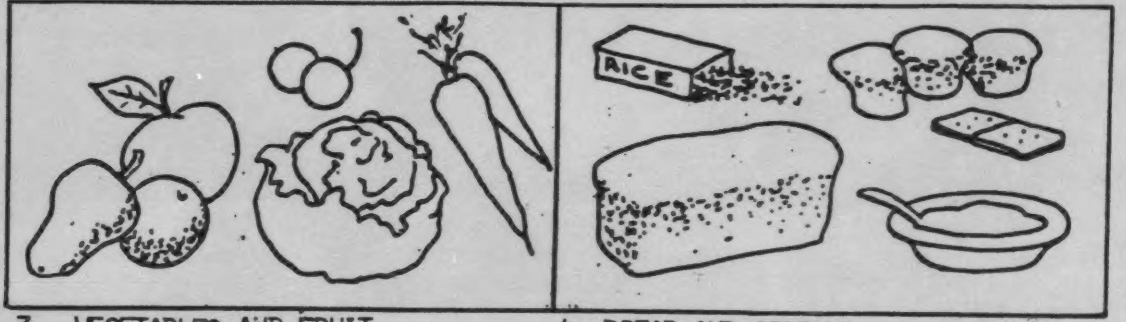
    4.

    5.

FIG. A. FOUR FOOD GROUPS



1. DAIRY 2. MEAT



3. VEGETABLES AND FRUIT 4. BREAD AND CEREALS

FIG. B.

VITAMIN	BODY USE	FOOD SOURCE
A	EYESIGHT AND RESISTANCE TO COLDS AND INFECTIONS	MILK, EGGS, YELLOW AND GREEN VEGETABLES
B_1	GENERAL HEALTH--STRENGTHENS NERVOUS SYSTEM	MILK, MEAT, CEREALS, GREEN AND LEAFY VEGETABLES
B_2	GENERAL HEALTH--PROMOTES HEALTHY SKIN	MILK, EGGS, MEAT, GREEN AND LEAFY VEGETABLES
C	HEALTHY TEETH AND GUMS--RESISTANCE TO INFECTIONS	CITRUS FRUITS, GREEN PEPPERS AND GREEN VEGETABLES
D	BUILDS STRONG BONES AND TEETH	MILK, LIVER, EGGS
K	HELPS BLOOD TO CLOT	GREEN VEGETABLES, TOMATOES

STUDENT ACTIVITY

Using the given letter, label the answers found in Figs. A or B to the following questions: A. The vitamin that helps protect us from severe winter colds____. B. The vitamin that helps heal a cut finger.____C. The food group to which macaroni belongs________ D. The vitamin that helps us have steady nerves______E. The food group to which turkey belongs._____F. The most perfect liquid food source.____G. The vitamin that helps you have a healthy skin complexion.____.

FACT SHEET

Your teacher will provide you with information on nutrients, calories, and vitamins.

NUTRIENTS -- food parts the body uses for energy, growth, and replacement of worn out structures.

Five main groups of nutrients:

1. Carbohydrates
2. Fats
3. Proteins
4. Minerals
5. Vitamins

CALORIES - unit measurement of energy in food.

Four characteristics affecting calorie requirements.

1. Age
2. Sex
3. Activity
4. Height and Weight

Major Vitamins

Vitamin A
" B_1 or thiamin
" B_2 " riboflavin
" B_{12} " folic acid
" C " ascorbic acid
" D
" E
Niacin
Pantothenic acid
Pyridoxin
Biotin

FILM: "UNDERSTANDING VITAMINS"

As you view the film, try to answer the following questions:

1) *What vitamin deficiency causes the disease scurvy?*

2) *What is metabolism?*

3) *What is the role of vitamins in body regulation?*

HOMEWORK ASSIGNMENT

1) Name the Basic Seven Food Group classifications and their vitamin counterparts.

2) What is the difference between the Basic Seven Group and the Basic Four Group?

FILM: EAT FOR HEALTH

Compare the last homework assignment on the basic seven group and the basic four group with what you have learned in this film.

How does this new information differ from our past information on the food groups?

Develop from this film and previous information a poster illustrating the Basic Seven Food Group.

FILM: "TOWARD THE VICTORY OF HEALTH"

This film gives a summary of most materials you have been exposed to in this unit. Discussion will be handled by the teacher after the class has viewed the film.

1)

2)

3)

4)

BRAINSTORMING

The teacher will brainstorm with you about the relationship of carbohydrates, calcium, calories, protein, fats, minerals, vitamins, and water to foods and the body needs.

1. *What functions do carbohydrates serve in our body?*
2. *What are the major functions of fats in our body?*
3. *What are the major functions of minerals in our body?*
4. *What are the major functions of proteins in our body?*
5. *What major vitamins are found in the food in the vegetable - fruit group? What are the functions of these vitamins in our body?*
6. *What functions do calcium play in our body?*
7. *What is a normal calorie load per day for a teenager?*
8. *Why is water important for the body needs?*

GUEST SPEAKER

ACTIVITY: OPEN-BOOK

List the amount of carbohydrates, calories and proteins found in the foods from the food groups as listed below.

A. Milk Group	Carbohydrates	Calories	Proteins
½ cup of evaporated milk			
½ cup of cottage cheese			
½ cup of cheddar cheese			
½ cup of ice cream			
½ cup of butter			
½ cup of buttermilk			

B. Meat Group	Carbohydrates	Calories	Proteins
3 ounces of poultry			
3 ounces of fish			
3 ounces of beef			
3 ounces of pork			
2 eggs			
4 ounces of dry beans			
4 ounces of dry peas			

C. Vegetable - Fruit Group	Carbohydrates	Calories	Proteins
3 ounces of grapefruit			
3 ounces of spinach			
3 ounces of sweet potatoes			
2 ounces of papaya			
2 ounces of collards			
3 ounces of pumpkin			
4 ounces of strawberries			
3 ounces of guava			
2 ounces of kale			
2 ounces of mango			

D. Bread and Cereal Group	Carbohydrates	Calories	Proteins
2 ounces of ready-to-eat cereal			
4 ounces of macaroni			
2 ounces of cooked cereal			
5 ounces of cornmeal			
1 slice of bread			
2 ounces of rice			
3 ounces of spaghetti			

FILMS:

1. BIG DINNER TABLE
2. MENU PLANNING

You are asked to observe both films very carefully. The lesson tomorrow will depend on how precisely you gathered and recorded observed information.

1. *How did each nationality differ in their food selection habits?*

2. *How did each nationality differ in their food preparation?*

3. *Explain the body's need for food.*

4. *Where do you expect to find a dietitian in your school?*

FACT SHEET

All the food elements needed to keep a person healthy make up a balanced diet.

Deficiency diseases are caused by the lack of a needed food element.

A person who supervises the preparation of food and plans menus by using the principals of nutrition is called a dietitian.

Dietitians can be found employing their skills and services in a number of facilities (hospitals, and hospital related facilities such as nursing homes, health care centers, community health services, and clinics). Food management positions employ a large number of dietitians. They can also hold positions in educational institutions.

BRAINSTORMING

THE ROLE OF A DIETITIAN

Your teacher will brainstorm with you on the statements and questions below. Record your answers in the spaces provided when your teacher decides you and your classmates have the appropriate answers.

1) *List the various facilities employing the services of dietitians in your community.*

2) *Group the facilities in the above list according to categories.*

3) *Label each category.*

4) *What are the major functions of Clinical Dietitians?*

5) *Define the basic role of a dietetic technician.*

6) *Define the basic role of a dietetic assistant.*

FIELD TRIP

a. A trip to the Vocational center food service class. Demonstrations by students in the food class should increase your knowledge of preparing a well-balanced meal.

b. Your teacher may elect to have you visit your own school cafeteria. An interview with your school's food service supervisor should be educational.

Specifics as to what to look for will be given to you by your teacher.

Field Trip Feedback:

1) *Did you increase your knowledge of the responsibilities of a Food Service Supervisor?*

How?

Why?

2) *How could the trip have been more effective?*

A)

B)

C)

3) *Why is it important for places serving food (hospitals, nursing homes, cafeterias, and etc.) to employ dietitians?*

GUEST SPEAKER

For today's activity a speaker will discuss with you the area of dietetics. This presentation will be a general discussion on the types of jobs that are available in this field, job functions and qualifications.

Some questions you might want answered:

a) Education and training requirements

b) Places employed

c) Opportunity for advancement

d) License

GLOSSARY

Carbohydrate	- Sugars and starches that supply energy for the body. Sources - sugar, jelly cake, ice cream, bread, potatoes, rolls, cereals, pastries, etc. The abbreviation is CHO.
Fat	- A concentrated source of energy. Sources - Butter, oil, shortening, margarine, bacon, etc.
Protein	- For muscle building. Sources - Milk, eggs, meat, fish, cheese and poultry. The abbreviation is Pro.
Calorie	- A unit used for measuring the energy value of food as degrees measure heat or cold. Calories are derived from carbohydrates, fats and protein. Those calories are needed and are turned into body fat.
Sodium	- A mineral found in table salt and many other foods, such as, eggs, meat, milk and some vegetables.
Gram	- A unit used to measure weight. 30 grams equal 1 oz.; 60 grams equal 2 oz.; 90 grams equal 3 oz.; etc. The abbreviation is g.
Milligram	- One thousandth of a gram.
Mechanical	- A modification of any diet making the food easy to chew and swallow.
Hi-Hi	- A high calories, high protein milk drink used on liquid and high protein diets.
Modified Diets	- Also called "Special Diets". A modification of the regular diet to limit or add various nutrients to the diet.
Nutrients	- Nourishing components of food - CHO, protein, fat, minerals, vitamins, calories, and water. Also, known as foodstuffs.
Sippy Milk	- The fortified milk formula or a mixture of milk and cream used on the Bland I diet.
Nourishments	- In between meal feedings.

GLOSSARY

Dietitian	-Professionally trained person who directs Administrative, Educational and Nutritional aspects of Department.
Supervisor	-Employee directing a group of workers.
Cook	-Employees who cook food. May also serve hot food.
Food Service Worker	-Prepares, serves and cleans patient and other trays. Also cleans.
Ingredient Control Employee	-Receives, stores, and distributes food.
Vegetable Man	-Processes and stores fresh fruits and vegetables.
Nourishment Employee	-Prepares and serves in between meal feedings and tube feedings for patients.
Ward	-A Nursing Unit consisting of a specific number of patients cared for by Nursing personnel.
Stripping	-Removing dishes and left overs from soiled trays.
Ration	-All 3 meals or food for one day for one person.
Tray Conveyors	-Large heated-refrigerated carts-capacity 18-20 trays.
Menu	-Daily listing of foods served at each meal.
Steam Kettle	-A large kettle made with hollow sides filled with steam which cooks the food.
Trunion	-A steam kettle that tilts.
Frialater	-A deep fat fryer used to fry potatoes, fish, etc..
Oven	-An enclosed area heated to cook with dry heat.
Bain-Marie	-A hot water bath. Ours is covered and is used like a double boiler.
Tray line	-A long counter, partly heated, partly refrigerated where food for a meal is kept while trays are being served.

UNIT IV

REHABILITATION

REHABILITATION

ALLIED HEALTH FIELD:

1) *What is rehabilitation?*
2) *What are some of the functions of a rehabilitation therapist?*
3) *What skills are necessary for proficiency in rehabilitation therapy?*
4) *What types of educational background are required in this field?*

This unit is designed to help you recognize and understand the uses of REHABILITATION (re-ha-bil-i-ta-tion) as a treatment for various disabilities serviced by health care workers in the Allied Health Field. A DISABILITY (dis-abil-i-ty) is a physical or mental impairment. The area of rehabilitation involves many kinds of services to people with many different types of disabilities. You will be given an overview of the occupations and services provided within the field of Rehabilitation. The work of a Rehabiltation Therapist includes activities in the following areas:

1) Corrective Therapy
2) Educational Therapy
3) Manual Arts Therapy
4) Occupational Therapy
5) Physical Therapy
6) Recreational Therapy

If this unit is successful:

1) *You will be able to define those disabilities that require the assistance of a rehabilitation therapist.*

2) You will be aware of those occupations defined as rehabilitation.

3) You will be able to develop an awareness of the responsibilities of a rehabilitation therapist.

4) You will identify with a person who has suffered a disability.

5) You will become familiar with terminology associated with Rehabilitation Therapy.

6) You will be familiar with the use of equipment involved in the work of a Rehabilitation Therapist.

MASTERY VOCABULARY LISTS

A) rehabilitation
therapy
disability
disabled
mental
psychological
physical
treatment
restricted
adjustment
aspiration
impairment
capability
motivation
frustration
recruitment

B) Corrective Therapy
Educational Therapy
Manual Arts Therapy
Recreational Therapy
Occupational Therapy
Physical Therapy
Respiration Therapy
Audiology
Prosthetics
Orthothetics

C) anatomy
skeletal
muscle
bones
tibia
radius
phalangea
scapula
ribs
joints

femur
tarsals
clavicle
mandible
limb
Haversian system
humerus
lamella

D) equipment
crutches
cast
brace
wheelchair
hydrotherapy
passive exercise

PART I. INTRODUCTION TO REHABILITATION THERAPY

OBJECTIVES:

1) *You will be able to name the occupations included in rehabilitation therapy.*
2) *You will know what disabilities require the assistance of a rehabilitation therapist.*
3) *You will begin to acquire an awareness of the roles a therapist plays in restoring a patient to usefulness.*

Your teacher will ask you to brainstorm (and later to discuss) as many different types of disabilities as you can that might require some type of rehabilitation.

Use the space below to record your ideas:

FILM

Today you will view a film entitled ACCENT ON USE.

After viewing the film, try to answer the questions below:

1) *What is the role of the Rehabilitation Therapist in helping a patient?*

2) *What type of disabilities did you see that needed the services of a Rehabilitation Therapist?*

3) *List the specific skills performed by the therapist in the film.*

4) *Do most of the therapists in the field of rehabilitation deal with PEOPLE, DATA, or THINGS? Rate them on a scale of 1 - 10 for each. (1 is the lowest; 10 is the highest.)*

HOMEWORK

Develop a notebook which illustrates the different kinds of disabilities which require rehabilitative treatment. Pictures may be gotten from newspapers, magazines and books. You may also draw some entries, if you wish.

Be sure to label each picture to show what area of rehabilitation it belongs to and the different kinds of activities that the specific therapist would perform.

ROLE - PLAY SITUATIONS

You will be asked to experience some disabilities over a short period of time, with the option in some cases, to continue for 24 hours. As you are forced to function with less than 100% ability, evaluate your experience by thinking of the answers to the following questions:

1) *How did you feel?*
2) *What did you feel were the reactions of others to you?*
3) *How long did it take you to adjust to your disability?*
4) *How might you help someone else adjust to this experience?*

ACTIVITIES

a) Wear a blindfold to simulate blindness.

b) Wear a mitten on one hand to simulate the experience of a person who has lost full use of one hand.

c) Wear an arm sling to simulate loss of the use of an arm.

d) Walk on one crutch to simulate leg loss.

e) Perform single tasks from a wheelchair to simulate back(spine) problems and relative immobility.

GUEST SPEAKER

A person who has experienced rehabilitative treatment will come to class to speak with you. He(she) will discuss his experiences as follows:

a) Feelings about his disability when it occurred

b) Adjustments that he made to compensate for his disability

c) Concerns and aspirations about how his disability might affect future plans

You may want to jot down some questions to ask him during the class discussion/question and answer period.

This week you have been introduced to the field of Rehabilitation Therapy. To evaluate your understanding, complete the Mastery Sheet on the next page.

MASTERY SHEET #1

1) REHABILITATION is ______________________________

____

____

2. A DISABILITY is ______________________________

____

____

3) Five(5) activities of a Rehabilitation Therapist are:

1) ____

____

2) ____

____

3) ____

____

4) ____

____

5) ____

____

4) How do you feel about a person with a disability?

5) List at least 3 of the problems that you think you would encounter in working with a person who has a disability.

PART II. PHYSICAL THERAPY

FILM

A film on physical therapy will shown today entitled Decision. This film deals with various career possibilities in physical therapy in which one might be employed.

After viewing the film, record the answers to the questions below as precisely as you can.

1) *What kinds of health career choices are shown in the film?*

2) *What types of activities did the health workers in the film perform?*

3) *What specific skills were involved in the activities?*

4) *Describe the necessary educational background for performance of these activities.*

5) *Rate the interaction of a Physical Therapist with respect to PEOPLE, DATA and THINGS. Use a scale of 1 - 10 (1 is the lowest, 10 is the highest).*

EQUIPMENT OF THE PHYSICAL THERAPIST

Your teacher will show you several numbered photographs of some of the kinds of equipment used by a physical therapist.

Place the proper name of each piece of equipment shown next to the correct number of the photograph below.

Choose the names from this list: crutch, cast, brace, wheelchair, exercise, sling, whirlpool, walker,

1.
2.
3.
4.
5.
6.
7.
8.
9.
10.

From its appearance, what use might each piece of equipment have?

Now carefully inspect the actual equipment. (How does each piece compare with its picture?)

Are there any adjustment knobs or levers on the actual equipment? If there are, what background information and skills would you need in order to be sure that your adjustments and use would not be harmful to your patient? What information would you need to know in order to use this equipment properly?

III. THE MUSCULAR-SKELETAL SYSTEM

A. JOINTS

Your teacher will now show the class a model of the human skeleton. Look it over very carefully.

During the next few class sessions you will be studying the bones and bone structure of the human body. Carefully inspect the placement and organization of the bones in the skeleton. All of the bones are joined together to form the body's supporting framework.

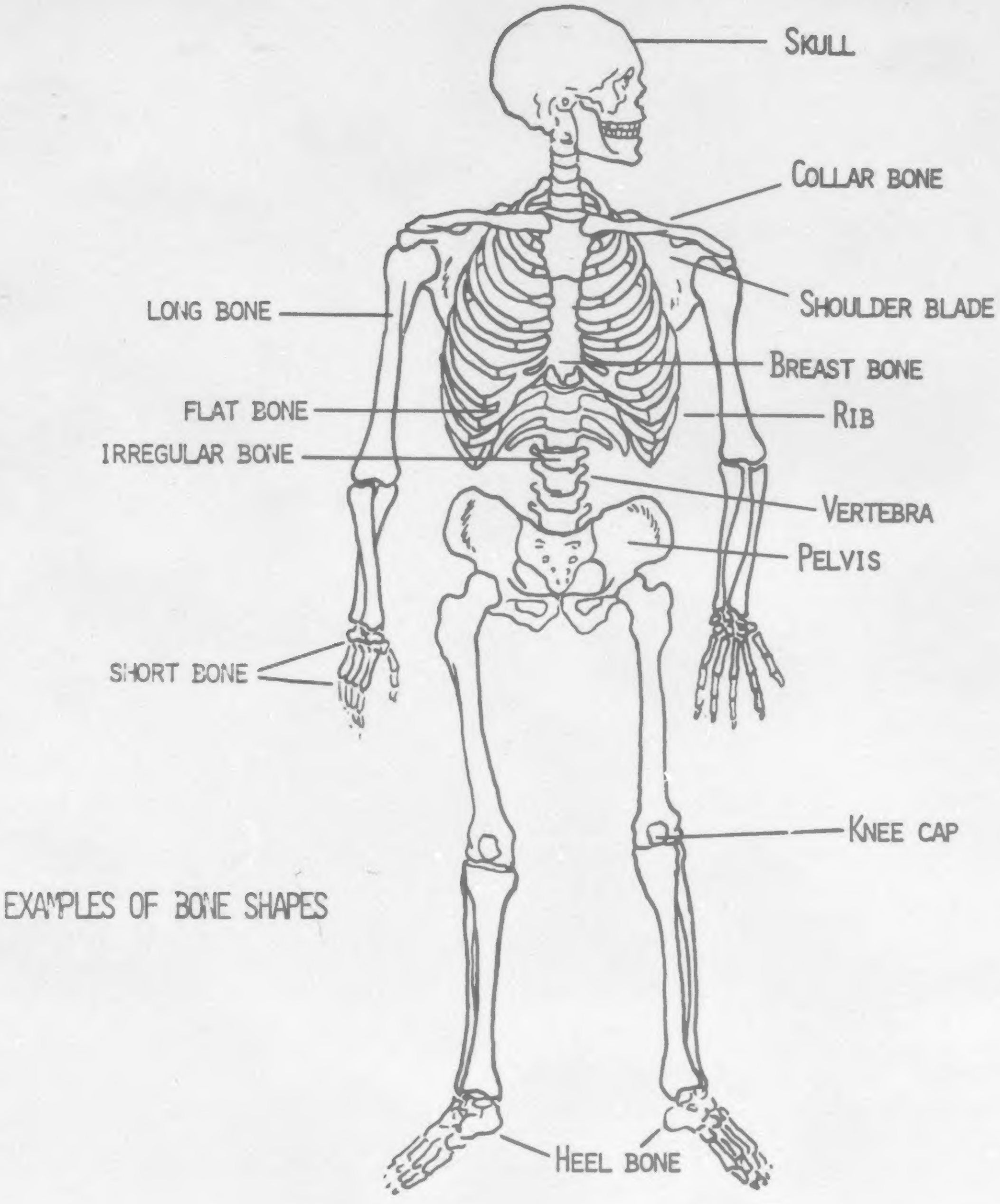
Helping join the bones to each other are the joints. There are five(5) major types of joints:

1. BALL AND SOCKET (hip joint, shoulder, wrist, ankle)
2. SADDLE (thumb)
3. HINGE (elbow, knee)
4. PIVOT (some vertebrae)
5. PLANE (carpals)

Notice that you have been given some examples of each type of joint. Using the skeletal model, see if you can discover the similarities and differences between them. Consider:

1. *Do the parts of each type of joint move together?*
2. *How do the parts of each joint move?*
3. *How much movement is allowed by each?*
4. *Which type seems to allow for greatest freedom of movement?*

THE SKELETAL SYSTEM


SKULL
COLLAR BONE
LONG BONE
SHOULDER BLADE
BREAST BONE
FLAT BONE
RIB
IRREGULAR BONE
VERTEBRA
PELVIS
SHORT BONE
KNEE CAP
EXAMPLES OF BONE SHAPES
HEEL BONE

STUDENT ACTIVITY

1. Using the symbols given, mark which bones give protection to: the heart (   ), the brain (   ), the spinal cord (   ), the lungs. (   ).

2. Give one example of each type of bone shape: Long___________, Short___________, Flat___________, Irregular_______________.

JOINTS

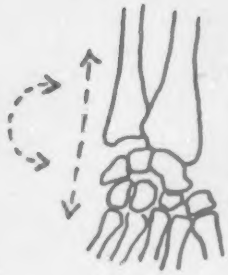


FIG. A WRIST

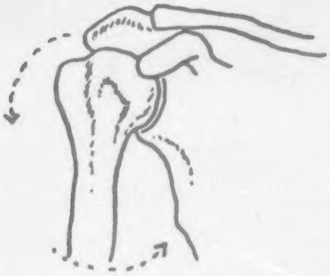


FIG. B SHOULDER

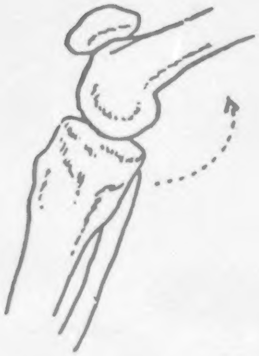


FIG. C KNEE

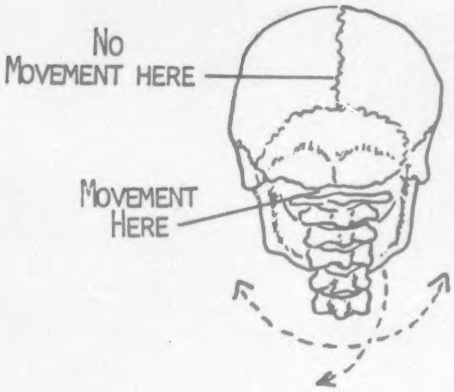


FIG. D SKULL ATOP VERTEBRA

	BALL AND SOCKET	ROUNDED END OF BONE FITTING SNUGLY WITHIN ANOTHER BONE.
TYPES OF FREELY MOVABLE JOINTS	HINGE	MOVEMENT AT JOINT IN ONE DIRECTION -- LIKE A DOOR.
	PIVOT	BONE RESTING ATOP ANOTHER BONE, PERMITTING FREE MOVEMENT.
	GLIDING	BONES SLIPPING OVER OTHER BONES WITH A FREE FLOWING MOVEMENT.

STUDENT ACTIVITY

1. Using the information above, label each figure to show the type of movable joint,

2. Identify these types of movement joints:

a. Hip____________________________________

b. Ankle__________________________________

c. Elbow__________________________________

d. Knuckles_______________________________

JOINT MALFUNCTION

You have learned that joints allow for movement and position changes of the body. They allow us to bend, stretch and straighten, our limbs towards the center of our body, and rotate and swing our limbs and appendages. Imagine not being able to shake your head, or bend your knees, or hold your arms straight out in front of you. When your joints are not functioning properly, you cannot perform even the most routine activities.

Usint the space below, brainstorm this question:

How could malfunction of a joint affect a person's life style?

One of the purposes of rehabilitative treatment is to restore the body to usefulness.

How do you think rehabilitation could help a person with a joint malfunction?

ASSIGNMENT:

Using the drawings in Appendix A as reference, DRAW and LABEL each type of joint. Next to each give an example of where the joint type can be found in the body. Also, record the degree of movement allowed by each type of joint.

B. BONES

You have observed the position of the bones in the human skeleton. Now, as comparison, a cow skeleton will be made available to you. Look it over carefully. Try to pick out at least one location of each of the major types of joints.

As you inspect the cow skeleton, think of the answers to the following questions:

1) *How does this skeleton differ from the human skeleton?*
2) *How are the two skeletons alike?*
3) *What do the bones look like?*
4. *How do the bones feel?*

Bones have several functions. They:

a) Provide a frame for the body.
b) Protect delicate organs and other parts of the body.
c) Provide a place for muscles to attach.
d) Act as a storage tank for calcium.
e) Produce blood cells.

Because bones are so vital, it is important to understand their structure and composition.

STRUCTURE OF BONE

Your study of bone structure will begin with a laboratory lesson. For this assignment, you will need:

a microscope
slides of bone-Cross sections.

After you have focused and observed the slides under both high and low power magnification, DRAW each cross section as you see it. The most noticeable structure on the cross section should be the Haversian (ha-ver-sian) system of concentric or circular layers.

Be sure to label each drawing clearly.

After your class discusses the structure of bone, you may want to look at these slides again.

GROWTH AND REPAIR OF BONE

QUESTIONS:

1. Do bones repair themselves correctly all of the time?

2. What are two (2) things a person can do to aid successful bone repair?

3. Briefly describe how a bone break repairs itself.

THE MUSCULAR-SKELETAL SYSTEM

OPTIONAL ACTIVITY:

Appendix B contains a diagram of the skeletal system. Some of the major bones are labeled. Using the Appendix and the model of the skeletal system that is in your classroom, identify the following bones:

1. Mandible (jaw)
2. Frontal Bone (forehead)
3. Clavicle -- shoulder
4. Scapula
5. Ribs
6. Vertebrae(spine)
7. Humerus (arm)
8. Sternum (chest)
9. Ulna -- forearm
10. Radius
11. Phalanges (types of fingers)
12. Pelvic Girdle
13. Femur (thigh)
14. Patilla (knee cap)
15. Tibia -- leg
16. Fibula
17. Phalanges (tips of toes)

MUSCULAR SYSTEM

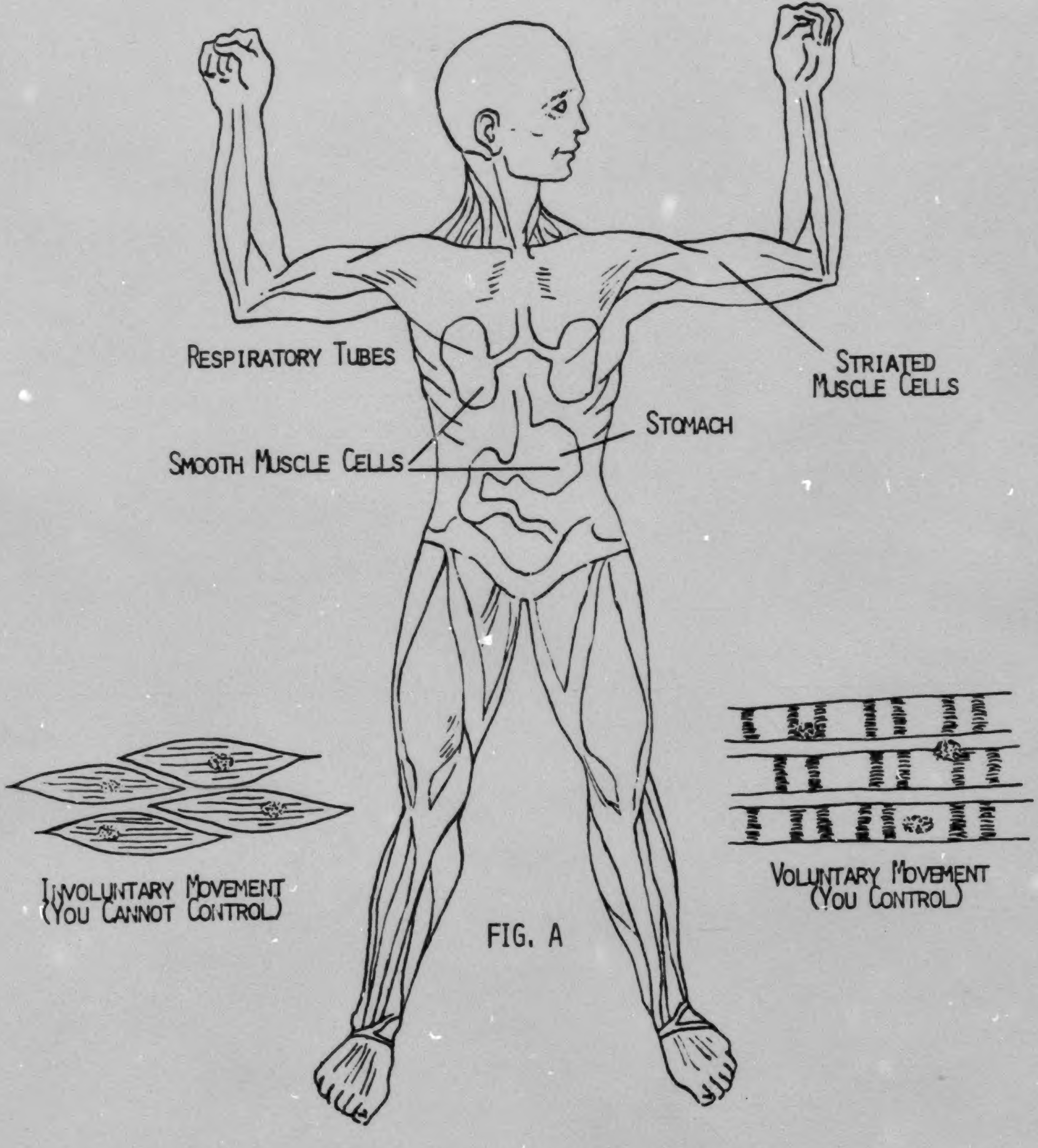

RESPIRATORY TUBES
STRIATED MUSCLE CELLS
STOMACH
SMOOTH MUSCLE CELLS
INVOLUNTARY MOVEMENT (YOU CANNOT CONTROL)
VOLUNTARY MOVEMENT (YOU CONTROL)

FIG. A

FIG. B

1. LIFTING____________________
2. DIGESTION____________________
3. RUNNING____________________
4. BLINKING EYES____________________
5. BREATHING____________________
6. HEARTBEAT____________________
7. SWALLOWING____________________
8. SINGING____________________

STUDENT ACTIVITY

1. In FIG. B, use the following symbols to show the kind of muscle action: V --Voluntary, IV--involuntary, B--Both Voluntary and involuntary.

2. The dark spots seen in smooth muscle cells (FIG. A) are the______________of these muscle cells.

C. MUSCLES

LABORATORY LESSON #2

PURPOSE: a) To identify and draw the three basic kinds of muscles in the human body:
1) cardiac
2) striated
3) smooth

b) To list some of the similarities and differences between these muscles.

MATERIALS: Microscope
Cross-Section slides
Anatomy Charts
Drawing Paper
Appendix C

METHOD:
1) Focus each slide under low and then under high power;
2) Draw what you observe;
3) Label each drawing;
4) Compare and Contrast:
    a) location of each type
    b) voluntary or involuntary?
    c) Smooth or striated?
    General appearance

DISABILITIES OF THE MUSCULAR-SKELETAL SYSTEM

A physical therapist will be coming to class to discuss careers in physical therapy and the importance of understanding the workings of the muscular skeletal system in order to successfully perform as a physical therapist. Before her arrival, you may want to jot down below any questions or ideas you would like discussed.

PROJECT ASSIGNMENT

Choose One

A. Describe one major limb according to the type of bone, muscles and joints present in it. Use diagrams and drawings in your explanation.

B. Build a limb. Show the type of joint present and the relative size. Also include major muscles.

See your teacher for the work completion deadline.

CULMINATING ACTIVITIES AND QUESTIONS

1. Draw the three major muscles and discuss the differences between them in terms of appearance and function.

2. Where is each muscle type located?

3. How does the muscle formation help it to accomplish its function properly?

4. Describe a muscle contraction.

5. What are the major characteristics of bone?

6. How does a bone break repair itself?

7. How could medical care correct a bone break or malformation?

8. What types of rehabilitative care and treatment would a Physical Therapist use to help restore function after a break?

9. What jobs do joints perform?
   How many types of joints are there?
   Name the types of joints.

LABORATORY PROJECT - FROG DISSECTION

BONES
MUSCLES
JOINTS

A. You will be shown a Video-Tape of a simple frog dissection - Follow each step very carefully. Using the diagrams of the frog that have been given to you by your teacher, try to pinpoint all of areas shown on the video-tape.

Be especially careful to observe the close relationship between the bones, muscles and joints.

B. Now you will be divided into laboratory teams. (Remember, teamwork is the key to success in performing any task). Each team will be expected to successfully DISSECT AND STUDY ONE MAJOR LIMB.

Choose the limb you are going to work on.

*You should be able to identify and name the major bones, muscles, and joints.

Your instructor will provide you with more detailed directions of this assignment.

UNIT V

NURSING

NURSING

ALLIED HEALTH FIELD:

1) *What is nursing?*
2) *What are some of the functions of a nurse?*
3) *What skills are necessary for proficiency in nursing?*
4) *What types of educational background are required in this field?*

This unit is designed to help you recognize and understand the nursing (nurs-ing) profession as a vital part of the health care team. The area of nursing involves many kinds of services to many people with many different types of illnesses and disabilities. The work of a nurse is as follows:

A. Professional Nurses

   1. Hospital nurses
   2. Private-duty nurses
   3. Public Health nurses
   4. Occupational or Industrial Health nurses
   5. Others

      a) Teaching
      b) Branches of Government (federal, state and local)

B. Practical Nurses

C. Nurses' Aide

The following is a brief overview of the nursing profession:

Professional nursing was founded by Miss Florence Nightingale. In London in 1860 Miss Nightingale established the first school of nursing. Massachusetts General Hospital, Bellevue Hospital, and New Haven Hospital were the first nursing schools established in the United States in 1873. In 1896 an organization for professional registered nurses was organized.

INTRODUCTION

Nurses can be found implementing their skills in all parts of the world; small towns, large cities, and farm areas.

Nurses perform a variety of tasks. Most of us associate them with caring for the sick. That is a major function, but by far not the only one. Some nurses are working hard helping well people stay well. Others work with the young and the old teaching them how to protect themselves from diseases. Still others are employed as educators teaching their skills in colleges and universities by training others for the nursing profession.

OBJECTIVES:

1. Students should know the functions of Professional and Practical Nurses.
2. Students should be familiar with the categories of careers in nursing.
3. Students should know the major facilities that employ nurses.
4. Students should be aware of the various roles of nurses in aiding patients.
5. Students should be aware of the role of nursing as it relates to the health care team.
6. Students should be familiar with terminology associated with nursing.
7. Students should be familiar with equipment used by Nurses.

VOCABULARY WORDS

ABDOMEN
ABSORPTION
ACUTE
AGITATED
AIRWAY
ALVEOLI
AMBULATORY
ANTIBIOTIC
ANUS
APNEA
ARTERIOSCLEROSIS
ARTERY
ASEPSIS
ASPIRATION
ATTITUDE
ATELECTASIS
AUTOCLAVE
AXILLA

BACTERIA
BENIGN
BILATERAL
BIOPSY
BLADDER
B/P
BODY ALIGNMENT
BOWEL
BM
BUTTOCKS

CALORIE
CATHARTIC
CATHETER
CELL
CHRONIC
COMA
COMMODE
CONFUSED
CONSTIPATION
CONTAMINATED
CC
CULTURE
CYANOSIS

DECUBITUS ULCER
DEFECATION
DEHYDRATION
DIAPHRAGM
DIARRHEA
DIASTOLE
DIGESTION
DIRTY
DISINFECT
DISTENDED
DIURETIC
DYSPNEA

EDEMA
EMACIATED
ENEMA
ENERGY
EXPECTORATE
EXHALE
EXORIATED

FECES
FEVER
FLEET ENEMA
FLUID BALANCE
FORCE FLUIDS
FOWLER'S POSITION

GERMICIDAL

HEART FAILURE
HEMIPLEGIA
HEMORRHOIDECTOMY
HYPERTENSION
HYPERTHERMIA
HYPERTROPHY
HYPOTENSION
HYPOTHERMIA

IMPACTION
INCONTINENCE
INFECTION
INHALE
INTAKE
ISOLATION

JAUNDICE

KARDEX
KIDNEY

LACERATION

MALIGNANT
METABOLISM
MUCUS

OBESE
ORAL HYGIENE
OUTPUT

PANIC
PARALYSIS
PARAPLEGIA
PEDICULOSIS
PERISTALSIS
PERSPIRATION
PROCTOSCOPE
PRONE
PROSTHESIS
PULSE
PURULENT

RECTAL TUBE
RECTUM
RESPIRATION
RESPIRATORY DISEASE
RESTLESSNESS
RETENTION ENEMA

SEMI-FOWLER'S POSITION
SIGMOIDSCOPE
SIGNS
SITZ BATH
SPECIMEN
SPHYGMOMANOMETER
STERILE
STERNUM
STETHOSCOPE
STOOL
STRESS
STUPOR
SUPINE
SUPPOSITORY
SYMPTOMS
SYSTOLE

TEMPERATURE
TRACHEA
TRENDLEBURG

UMBILICUS
URETER
ERETERA
URINAL

VITAL SIGNS
VOID

COMMONLY USED ABBREVIATIONS

Pre-op	pre-operative
Post-op	post-operative
Pt.	patient
P.R.	private room
S.R.	semi-private room
G.W.	general ward
Dr.	doctor
R.N.	Registered Nurse
L.P.N.	Licensed Practical Nurse
N.A.	Nurse Aide

Diets

Reg	Regular Diet
Liq	Liquid Diet
ADA	Diabetic Diet
Lo Na	Low sodium Diet

NPO	nothing by mouth
OR	Operating room
ICU	Intensive Care Unit
O.B.	Obstetrics
Gyn	Gynecology
ER	Emergency Room
OPD	Out Patient Department
PHYSIO	Physiotherapy Department
A.M.	morning
NKA	no known allergies

P.M.	afternoon
OOB	out of bed
BRP	bathroom privileges
I & E	Intake & elimination
I & O	Intake & output
As tol	as tolerated
ad lib	as desired
$\bar{c}$	with
T P R	Temp., pulse, respirations
F	Fahrenheit
BP	Blood Pressure
ac	before meals
pc	after meals
S & A	sugar and acetone
h	hour
hs	hour of sleep
B.T.	bedtime
I V	Intravenous
lab	laboratory
lb.(s)	pound(s)
min	minute
o.d.	once daily
per	by
po (per os)	by mouth
prn	whenever necessary
q	every
q d	every day
q h	every hour
q 2 h	every 2 hours
q 3 h	every 3 hours
cc	cubic centimeter
amt.	amount
q 4 h	every 4 hours
q.i.d	four times a day
qs	a sufficient quantity
dtv	due to void
$\bar{s}$	without
spec	specimen
SS	Soap Solution
SSE	Soap Suds Enema
stat	immediately
tbsp	tablespoon
bid	two times a day
tid	three times a day
kvo	keep vein opened
H_2O	water
vag bleeding	check vaginal bleeding
vag disch	check vaginal bleeding
tsp	teaspoon
wt.	weight
EKG	electrocardiogram

EEG	electroencephalogram
G.I. Series	gastro intestinal series
G.B. Series	gall bladder series
I.V.P.	Intravenous pyelogram
Ba Enema	Barium Enema
F.B.S.	fasting blood sugar
N.C.P.	Nursing Care Plan
v.s.	vital signs
m	mouth
R	rectal
O	oral
D & C	Dilation & Curettage
T & A	Tonsillectomy & Adenoidectomy
CVA	Cerebral Vascular Accident
BP q 15 min. 6x, then q 1 h x 6	Blood Pressure q 15 min. 6 times, then q 1 hour 6 times
mitered corner	envelope corner on bed

BRAINSTORMING

HOSPITAL NURSES

A Hospital nurse may be categorized as a general-duty nurse or head nurse. Hospital nurses work with other health care team members in a variety of settings to help speed patient's recovery.

I. General Duty Nurse

- a) operating room
- b) prescribing for patients
    - 1. medicines
    - 2. treatments
- c) Maternity ward and Nursery
- d) Giving patients
    - 1. drugs
    - 2. injections
    - 3. treatments
- e) Routine patient care
    - 1. eating
    - 2. hygiene
    - 3. exercises
- f) reporting on patients
    - 1. reaction to medicine and treatment
    - 2. physical condition
    - 3. mental attitude
- g) patients well being

II. Head Duty Nurse

- a) supervisor of a ward or unit (nurses and patients)
- b) specialization

BRAINSTORMING

Private-Duty Nurses

Employed by the patient rather than by an institution.

Public Health Nurses

1. Usually tend large groups of people outside hospitals
2. Work for government or private agencies
3. Often take part in community health programs
4. Go into the homes to teach patients:
    a) with chronic illnesses how to care for themselves
    b) care for patients returning from hospitals
    c) about proper diet
    d) personal cleanliness
    e) preventing illness
5. Take part in community projects
    a) polio-vaccination
    b) chest x-ray
    c) order sickle cell anemia tests
    d) order blood count

BRAINSTORMING

Occupational, or Industrial, Health Nurses

They are responsible for promoting safety programs to help cut down or prevent accidents on the job. Another kind of responsibility is treating company employees for minor ailments, bruises, cuts, and colds.

These nurses can be found working in a variety of industries such as:

a. banks
b. various business offices
c. factories
d. stores
e. schools

Educator

Professional nurses can be found teaching in colleges and universities, writing books and articles about the nursing profession, and working as consultants for medical related firms.

Government

Federal
State
Local

Research

I. REGISTERED NURSE (R.N.)

Works in cooperation with the doctor in the prevention and cure of disease and other illnesses. The R.N. continually assesses the patient's needs. Plans, gives and supervises bedside nursing care, evaluates the patient's progress, and writes nursing care prescriptions as needed. Teaches nursing personnel and assists in teaching patients and their families.

A Registered Nurse can be found working in:

A. hospitals
B. clinics
C. Special institutions
    1. psychiatric hospitals
    2. children's hospitals
D. private homes
E. nursing homes
F. public health agencies
G. rehabilitation agencies

Some specialized areas registered nurses are employed:

A. care of children
B. medical-surgical
C. mental health
D. psychiatry
E. rehabilitation of the chronically ill
F. intensive care
G. coronary care
H. pediatrics

Educational requirements for Professional Nurses

I. Open only to high school graduates

1. preferably in the top 50%
2. college prep course preferred
3. pre-entrance tests

A. Baccalaureate Degree (R.N.) Registered Nurse

1. four years in a senior college or university
2. major in nursing, including theory and practice
3. licensing examination
4. advanced study at the master's or doctoral level is necessary for positions in research, nursing education, administration, and supervision.

B. Associate Degree

1. usually offered in a junior or community college
2. broader scope of courses eliminating repetition
3. two-year course of study to complete the program
4. licensing examination

C. Diploma

1. three-year program focus on the practical and technical aspects of hospital nursing.
2. the nurse's diploma awarded to the graduate signifies her readiness for beginning technical nursing practice in first-level staff positions
3. Some hospitals offer two-year programs
4. generally the diploma graduate is prepared to do general duty nursing under supervision in a hospital, nursing home or physician's office.

II. Licensed Practical Nurses (L.P.N.)

1. Two kinds of practical nursing schools
    - a. public
    - b. private
2. High school graduate is preferred
3. Usually one year, combining classroom study with actual experience.

A licensed practical nurse who has graduated from a state approved school is trained and qualified to assist the professional nurse or physician in the care of patients who are seriously ill, and the prevention of illness.

(a) They also may have duties such as taking and recording temperatures and blood pressures, administering prescribed medicines and treatment, and changing dressings. They make patients comfortable by changing bed linens, helping patients bathe, and other personal hygiene.

(b) A practical nurse can be found working in:

1. public health agencies
2. rehabilitation agencies
3. hospitals
4. private homes
5. nursing homes
6. special institutions
    - a. psychiatric hospitals
    - b. children's hospitals
7. clinics

Advanced training: Some specialized areas where practical nurses are employed:

1. intensive care
2. pediatric
3. psychiatric
4. medical-surgical
5. rehabilitation nursing
6. coronary care
7. kidney dialysis units

CODE OF ETHICS FOR THE LICENSED PRACTICAL NURSE

The Licensed Practical Nurse shall:

1. Practice her profession with integrity.

2. Be loyal to the physician, to the patient, and to her employer.

3. Strive to know her limitations and to stay within the bounds of these limitations.

4. Be sincere in the performance of her duties and generous in rendering service.

5. Consider no duty too menial if it contributes to the welfare and comfort of her patient.

6. Accept only that monetary compensation which is provided for in the contract under which she is employed, and she does not solicit gifts.

7. Hold in confidence all information entrusted to her.

8. Be a good citizen.

9. Participate in and share responsibility of meeting health needs.

10. Faithfully carry out the orders of the physician or registered nurse under whom she serves.

11. Refrain from entering into conversation with the patient about personal experiences, personal problems, and personal ailments.

12. Abstain from administering self-medications, and in event of personal illness, take only those medications prescribed by a licensed physician.

13. Respect the dignity of the uniform by never wearing it in a public place.

14. Respect the religious beliefs of all patients.

15. Abide by the Golden Rule in her daily relationship with people in all walks of life.

16. Be a member of The National Federation of Licensed Practical Nurses, Inc., and the state and local membership associations.

17. Not identify herself with advertising, sales, or promotion of commercial products or service.

THE INTERNATIONAL CODE OF NURSING ETHICS

1. The fundamental responsibility to the nurse is threefold: to conserve life, to alleviate suffering, and to promote health.

2. The nurse must maintain at all times the highest standards of nursing care and of professional conduct.

3. The nurse must not only be well prepared to practice but must maintain her knowledge and skill at a consistently high level.

4. The religious beliefs of a patient must be respected.

5. Nurses hold in confidence all personal information entrusted to them.

6. A nurse recognizes not only the responsibilities but the limitations of her or his professional functions; recommends or gives medical treatment without medical orders only in emergencies and reports such action to a physician at the earliest possible moment.

7. The nurse is under an obligation to carry out the physician's orders intelligently and loyally and to refuse to participate in unethical procedures.

8. The nurse sustains confidence in the physician and other members of the health team; incompetence or unethical conduct of associates should be exposed but only to the proper authority.

9. A nurse is entitled to just remuneration and accepts only such compensation as the contract, actual or implied, provides.

10. Nurses do not permit their names to be used in connection with the advertisement of products or with any other form of self advertisement.

11. The nurse cooperates with and maintain harmonious relationships with members of other professions and with her or his nursing colleagues.

12. The nurse in private life adheres to standards of personal ethics which reflect credit upon the profession.

13. In personal conduct nurses should not knowingly disregard the accepted patterns of behavior of the community in which they live and work.

14. A nurse should participate and share responsibility with other citizens and other health professions in promoting efforts to meet the health needs of the public - local, state, national and international.

ACTIVITY

1. Your teacher will brainstorm with you the code of ethics of the following groups of nurses:

    a) Registered Nurse
    b) Licensed Practical Nurse
    c) Nurse aide

2. After brainstorming the individual group's code of ethics, compare and contrast them with the international code of ethics.

ACTIVITY

You will discuss with your teacher the legal responsibilities of a nurse. Below record your answers about what you think are the legal responsibilities of nurses.

ACTIVITY

Your teacher will demonstrate the proper order of a hospital room with slides and photographs.

a) After the demonstration you will write an essay on what a proper hospital room should look like.

b) Develop a paper on how a hospital room can be improved.

ASSIGNMENT

Find pictures or drawings of a hospital room setting. Discuss why the rooms are arranged in the manner that they are.

ACTIVITY

Brainstorm about some of the basic equipment used by nurses in a hospital room while treating a patient.

BRAINSTORMING

Handwashing - Why Is It Important?

Today you and your classmates will brainstorm on the following question:

How could the life of a patient and a nurse be affected by not utilizing proper handwashing techniques?

A. List your answers below:

B. Group the items into categories:

C. Label each category (give it a name)

BRAINSTORMING

Hospital Bed - Why Is It Important?

1) What are the kinds of beds used in hospitals?
2) How could a patient be affected if his bed is not properly made?

List your answers below:

1)

2)

Film or Demonstration on proper bed making techniques

ACTIVITY

You will be shown some slides and photographs of how a nurse assists the patient in dressing and undressing.

A) After observing the slides and photographs you will be expected to demonstrate the proper way of dressing and undressing a patient.

B) Did you have any difficulties demonstrating what you observed in the slides and photographs?

C) If your answer to the above question was yes, then what were those difficulties?

D) List some of your feelings or concerns as you dressed and undressed a patient.

E) What do you feel can be done to improve the way patients are dressed or undressed?

BRAINSTORMING

Discuss the differences in the following types of baths given patients:

1. Bed Bath
2. Tub Bath
3. Sitz Bath

List answers from the discussion below:

Demonstration

A demonstration on the proper way to administer each type of bath will be given. The equipment used in each type of bath will be discussed.

BRAINSTORMING

The class will brainstorm about other patient care needs such as back rubbing, hair care, morning care, body wastes elimination, skin care, etc.

BRAINSTORMING

Therapeutic Diets - Why are they important?

Your class will brainstorm on the following question:

How does the diet of a diabetic patient differ from the diet of a patient with an intestinal disorder? a patient with a heart disease?

A. List your answers below:

B. Group the diets into categories.

C. Label each category.

BRAINSTORMING

Isolation - What are Purposes of Isolating Patients?

1) *What kind of illness would cause a person to be placed in isolation?*

2) *How does the care of an isolation patient differ from the care of a regular patient?*

3) *What are some of the procedures followed when a patient is in isolation?*

4) *What are some of the precautions observed when a patient is in isolation?*

VOCABULARY WORDS

ABDOMEN - area of the body from breast to genital area

ABSORPTION - the taking up of liquids by solids, or of gases by solids or liquids

ACUTE - sudden

AGITATED - roused by a sense of danger

AIRWAY - an instrument to allow air to get to the lungs

ALVEOLI - air cells of the lung

AMBULATORY - walking around

ANTIBIOTIC - a substance produced by a living organism which has power to destroy or inhibit the multiplication of other organisms.

ANUS - the outlet of the rectum; opening from the rectum to outside of the body

APNEA - no breathing

ARTERIOSCLEROSIS - hardening of the arteries

ARTERY - one of the vessels which carry blood from the heart

ASEPSIS - sterile, free from germs

ASPIRATION - to draw in or out by suction

ATTITUDE - your actions according to the way you feel about something

ATELECTASIS - collapsed lung

AUTOCLAVE - piece of equipment that decontaminates material by subjecting it to steam (hi temp) Pressure

AXILLA - underarm

BACTERIA - plant-like microorganisms

BENIGN - harmless, not cancerous, innocent

BILATERAL - occurring of both sides

BIOPSY - excision of a small piece of tissue for microscopic exam

BLADDER - receptacle to hold urine located in the lower pelvis

B/P - the pressure exerted on the walls of a blood vessel

BODY ALIGNMENT - the position of the body (proper position).

BOWEL - the intestine

BM - bowel movement

BUTTOCKS - seat, bottom, rump

CALORIE - a unit of heat

CATHARTIC - medicine given to soften the stool and aid in defecation.

CATHETHER - a soft rubber tube smaller in diameter than a rectal tube, frequently used for giving a retention enema - also used to remove urine from a pt.

CELL - it is the unit of structure of all plants and animals and is the physical basis of all life processes.

CHRONIC - referring to a condition that has been in existence over a long period of time

COMA - unconscious, in a deep sleep from which you are unable to arouse

COMMODE - a portable toilet

CONFUSED - not orientated to time or place, not sure of surroundings

CONSTIPATION - difficult defecation, hard dry stool

CONTAMINATED - area that contains germs or disease producing material

CC - cubic centimeter

CULTURE - a mass of microorganisms growing in laboratory culture media

CYANOSIS - bluish color to the skin

DECUBITUS ULCER - bed sore

DEFECATION - act of having a bowel movement

DEHYDRATION - insufficient water in the cells - dry

DIAPHRAGM - strong muscle just below the lungs

DIARRHEA - liquid stools frequently

DIASTOLE - period of heart muscle relaxation, lowest sound you hear when taking B/P

DIGESTION - breaking down of food into material that cells can use

DIRTY - same as contaminated

DISINFECT - chemical that kills germs

DISTENDED - to stretch out, to become inflated

DIURETIC - medication given to stimulate kidney activity

DYSPNEA - labored or difficult breathing

EDEMA - swelling of tissues

EMACIATED - underweight, starving, very thin, poorly nourished

ENEMA - evacuation of feces from the bowel; injection of fluid into the rectum

ENERGY - ability to do work

EXPECTORATE - spit

EXHALE - breathe out

EXORIATED - skin rubbed off

FECES - BM, produce of solid digestion, stool

FEVER - elevation of temp. usually one degree or over

FLEET ENEMA - a prepackaged enema which is disposable

FLUID BALANCE - amt. of fluid taking into the body should be the same amt. given from the body.

FORCE FLUIDS - encourage patient to consume at least three quarts of fluid a day, or in a 24-hour period

FOWLER'S POSITION - sitting straight up in bed

GERMICIDAL - germ killing

HEART FAILURE - heart stops beating

HEMIPLEGIA - paralysis of one half of the body

HEMORRHOIDECTOMY - removal of varicose veins of the rectum

HYPERTENSION - high B/P

HYPERTHERMIA - temp. above normal for application of heat to the body

HYPERTROPHY - enlargement of an organ

HYPOTENSION - low B/P

HYPOTHERMIA - temp. below normal, application of cold to reduce body temp.

IMPACTION - lump of fecal material lodged in rectum which the patient is unable to pass

INCONTINENCE - unable to control bladder or bowels

INFECTION - invasion of germs to the body

INHALE - breathe in

INTAKE - anything, usually used in fluid intake into the body

ISOLATION - placing a patient with a communicable disease in a separate area away from other patients

JAUNDICE - yellow color to skin

KARDEX - record of patient care at nurse's desk. Information about patient

KIDNEY - bean-shaped organ situated in center of back (one on each side of spine) that aids in formation and filtering of urine

LACERATION - irregular tear in the flesh

MALIGNANT - cancerous

METABOLISM - working of the cells of the body to carry on the activities of living

MUCUS - a viscid fluid secreted by mucous membrane and glands

OBESE - grossly overweight

ORAL HYGIENE - cleansing of the mouth, brushing, mouth wash

OUTPUT - the amount of fluid excreted from the body - mainly urine

PANIC - an emotional state of overpowering fear

PARALYSIS - loss of movement

PARAPLEGIA - paralysis from waist down

PEDICULOSIS - bugs in the hair, lice

PERISTALSIS - wave-like movement of the intestine

PERSPIRATION - to sweat

PROCTOSCOPE - instrument used for examining the lower colon

PRONE - lying flat face down

PROSTHESIS - false appliance (contact lens, teeth, limbs, breast)

PULSE - heart beat

PURULENT - forming or containing pus

RECTAL TUBE - a soft plastic or rubber tube used for giving an enema

RECTUM - lower part of large intestine

RESPIRATION - breathing in and out

RESPIRATORY DISEASE - diseases affecting the lung

RESTLESSNESS - agitated, keyed up, active, fidgety

RETENTION ENEMA - an enema given to be retained at least four hours (4 oz.)

SEMI-FOWLER'S POSITION - halfway between flat and sitting up straight

SIGMOIDSCOPE - instrument used for examining the sigmoid colon

SIGNS - clues to the patient's illness that you can see or hear - you observe

SITZ BATH - a warm soak to the rectum, temp. 110 degrees F

SPECIMEN - a part of a thing intended to show kind and quality of the whole, as for example; urine, feces, sputum, biopsy, etc.

SPHYGMOMANOMETER - blood pressure apparatus

STERILE - free from living organisms

STERNUM - breast bone

STETHOSCOPE - instrument used to hear B/P

STOOL - feces, product of BM

STRESS - strain, worry, which produces a defense reaction

STUPOR - lethargy, a state of unconsciousness, associated with mental depression.

SUPINE - flat on back, hand down palm facing up, on back face up

SUPPOSITORY - medication introduced into the rectum to induce BM or for medication

SYMPTOMS - things that a patient tells you about his illness.

SYSTOLE - the part of the heart cycle in which the heart is contracting

TEMPERATURE - degree of heat of a living body

TRACHEA - windpipe

TRENDLEBURG - feet higher than head

UMBILICUS - navel, belly button

URETER - passageway from kidney to bladder, tube which carries urine from kidney to bladder

URETERA - opening from the bladder through which urine passes

URINAL - recepticle for urine (usually used for a male patient)

VITAL SIGNS - signs of life, TRP&B/P and level of consciousness

VOID - to pass urine

APR 15 1976

Allied Health Field

Eleventh Grade

INTRODUCTION TO ALLIED HEALTH AND THE HEALTH CARE TEAM

Operation TACT Curriculum

TEACHERS' HAND BOOK

CE007159

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UNIT I

INTRODUCTION TO ALLIED HEALTH AND THE CONCEPT OF THE HEALTH CARE TEAM

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ALLIED HEALTH CURRICULUM PROCESSES

1) Observing
2) Measuring
3) Interpreting Data
4) Communicating
5) Comparing and Contrasting
6) Forming Concepts
7) Inferring and Generalizing
8) Predicting and Explaining
9) Applying Generalizations
10) Hypothesizing
11) Experimenting
12) Offering Alternatives

11TH GRADE

INTRODUCTION TO ALLIED HEALTH
AND
THE CONCEPT OF THE HEALTH CARE TEAM

LEARNING PROCESS	ACTIVITIES	NOTES	MATERIALS
	Introduction to Unit: What is Allied Health? What types of workers form the Health Care Team? Objectives: What skills and functions do they perform?	Found in Student Unit Handbook	French, Ruth M., The Dynamics of Health Care, McGraw Hill, 1968
Interpreting *Explaining* *Communicating*	A) Read and discuss selected excerpts from The Dynamics of Health Care, Pages 1-3. Try to get the group to arrive at a definition of health.		
Observing	B) View film - either Channel 24's Careers in the Health Professions, 1973, or Horizons Unlimited, 1968.	Film available through T A C T office.	Student Handbook
Interpreting *Inferring* *Communicating*	Discussion and questions.		
Hilda Taba: *Concept Formation* *Strategy I* *List* *Group* *Label*	C) Have students brainstorm and LIST all of the activities of the workers and health needs observed in the film. Then ask for additional items not observed in the film that can be added to the list.		

LEARNING PROCESS	ACTIVITIES	NOTES	MATERIALS
	Ask students to GROUP 2 or 3 of the items. Probe for the reason(s) behind their relationship. Then have students group all items. LABEL each group. Give it a title that fits all the members of the group.	Categories will probably develop in terms of: a) Preventative b) Diagnostic c) Corrective d) Rehabilitative e) Environmental	Joyce, Bruce R., "Inductive Teaching Model: Hilda Taba," in Models of Teaching, Prentice Hall, 1972.
Recording	Have students enter all lists, groups and labels in their notebooks for later use. SUMMARY: Review Taba Strategy Explain and familiarize students with the process of Listing Grouping Labeling as a means of investigating a question or problem. It will be used again.	It is suggested that the students maintain a PROCESS SKILL CHART. Each activity completed can be entered under the appropriate skill it uses. As skills and processes are introduced, they can be entered on the checklist. At the end of each unit or group of units, students can review which activities (and therefore which skills) they enjoyed the most and were most competent in. This will be useful in career clarification and in helping students make realistic career decisions and projected career goals.	Notebooks Process Skill Chart
	TEAM ORGANIZATION: Objective: Identify and discuss the importance of team interaction within the Health Care setting especially with regard to communication and ethical and legal responsibilities.		

LEARNING PROCESS	ACTIVITIES	NOTES	MATERIALS
	A) **TEAM WORK**: Exercise to encourage and demonstrate the necessity and importance of team work in a given situation.		
Measuring *Observing* *Comparing and Contrasting*	Create five 3" x 3" puzzle squares. Divide the class into groups of five students. Give each group a package containing the pieces to make the squares. Explain that each group must make 5 squares of equal size.	Illustrated in unit resource material.	Paper Squares Envelopes Unit Packets
	Stress the major rules of the game: 1) No group member may speak after the game has begun; 2) No member may ask another member of the group for a piece of paper; no member can signal another member of the group to give him or her a piece of paper; 3) Members may give pieces of paper to other members of the same group.		
Communicating *Offering Alternatives*	**Discussion**: How successful were the groups? Did the rules of the game aid or harm the group's progress? Would the team have been more effective if it had been allowed to speak? What things could have fostered communication? Why is team work so important for successful completion of the task?		

LEARNING PROCESS	ACTIVITIES	NOTES	MATERIALS
Interpreting *Offering Alternatives*	B) Case Study: Impressions of a Hospital - Team Communication Read and discuss the problems brought about by the staff's lack of team co-operation. How could the situation have been made less frightening for Mrs. Brown? Where did the team fall short?	Case study written by Ms. C. Page	Student Handbook
Role-Playing *Strategy* *Communicating*	C) Prepare students for role-playing session. Use video-tape recorder. Role-play the case study as written then ask the students to role-play it again illustrating proper team co-ordination and functioning. Ask students to:	Shaftel, Fannine and George, "Role-Playing for Social Values" in Joyce, Bruce R., Three Strategies for Teaching Social Studies. Science Research Associates, 1973.	Video-tape Student Handbook Observation Data Sheet
Offering Alternatives *Comparing and Contrasting*	a) Fill out a Role-Playing Observation Data Sheet for each interpretation of the case. Allow different students to participate. b) Think of alternative endings and solutions to the problem presented. Compare endings. Stress as paramount the importance of successful team work to the health and safety of the patient.		
	D) Ethical and Legal Behavior: Discuss with students the meanings and ramifications of proper ethical and legal conduct.		

LEARNING PROCESS	ACTIVITIES	NOTES	MATERIALS
Observation	Use demonstration tapes - Proper vs. Improper Behavior. Show tape one - improper behavior.		Demonstration Tapes Student Handbook
Interpretation *Offering Alternatives*	HOMEWORK: Ask students to critique version one. What corrections, changes or alternative behavior can they suggest?		
Communication *Comparing and Contrasting*	Discuss the students' suggestions. Then view version two - proper behavior. Were the students' observations about version one correct? Were their suggestions accurate? Compare and contrast the two film segments.		
Communicating *Observing* *Interpreting* *Offering Alternatives* *Explaining* *Inferring*	Suggested discussion and writing questions: a) Does the second film depict a better and more healthy situation than the first one? b) Discuss the ethical responsibilities violated in the first film. c) What possible legal problems could have resulted in the first film? d) How do the poor grooming habits of the therapist in Film One interfere with her job function? e) What indications of poor team communication and co-operation did you observe in the first film? Explain.		Video-tape Machines Tape Student Handbook

LEARNING PROCESS	ACTIVITIES	NOTES	MATERIALS
	f) List the instances of proper ethical behavior in film two. g) What suggestions would you make to improve the situation in the second film even more?		
	E) Client - Practitioner Relationship: Objective: Define the patient as a client listing two rights and two responsibilities.		
Communicating *Interpreting*	A) Read and discuss the characteristics of a client-practitioner relationship (or record and listen to the tape).	Adapted from: Lutsk, Bruce M., "The Student's Position Within Educational Organizations."	
Recording *Interpreting* *Analyzing*	B) Assignment: Write a short paragraph characterizing the student as a client and the teacher as a practitioner.		
	Ask the students to volunteer to read their paragraphs aloud. Discuss each:		
Interpreting	1) How well does the student-teacher relationship fit the criteria of a client-practitioner relationship?		
Generalizing and *Explaining*	2) Is the characterization of a student as a client and the teacher as a practitioner a valid one? Why or why not?		

LEARNING PROCESS	ACTIVITIES	NOTES	MATERIALS
	3) Could you characterize, according to the criteria, the patient as a client and the hospital professionals as practitioners? Is this characterization easier to do?		
	C) Client - Practitioner Relationship in Health Care:		
Communicating	1) Discuss why the roles of client and practitioner must be very specific and firmly established uniformally throughout the country? (world)		
	2) Read: American Hospital Association's Patient's Bill of Rights		AHA's Bill of Rights Student Handbook
Interpreting Data *Analyzing* *Explaining* *Communicating*	Discuss the specific responsibilities listed. Also, do these rights and responsibilities listed follow the criteria for a client-practitioner relationship? Does anything need to be added to make this a more complete document/		
	OPTIONAL ASSIGNMENT: Write a short Practitioner's Bill of Rights for one of the hospital professionals. (Teacher will designate which professionals).		

LEARNING PROCESS	ACTIVITIES	NOTES	MATERIALS
	3) Summary Review of Unit: Objective: Given situations which require a health professional to respond to patients, students will be able to give an appropriate response in terms of medical ethics and personal dignity.		
	Incomplete Paragraphs: Ask the students to read (or listen to on tape) and complete three or four incomplete paragraphs illustrating hospital situations. They must complete each with an appropriate ending based on medical standards of ethics and dignity.		Student Handbook - Incomplete Situations
	Then, evaluate each ending according to a pre-established criteria. This criteria can be based on the client-practitioner relationship and the demonstration tapes studied.		
	Suggested criteria: In your ending, what would be the attitudes of: a) Your fellow workers b) Your boss c) Your patients d) Your self		
	After evaluating each situation accordingly, ask students to make appropriate changes.		

UNIT II

MEDICAL TECHNOLOGY

MEDICAL TECHNOLOGY

LEARNING PROCESS	ACTIVITIES	NOTES	MATERIALS
Recording *Communicating* *Interpreting* *Explaining*	BRAINSTORMING: Have students brainstorm on a definition for Medical Technology.		Student handbook
Communicating *Interpreting*	DISCUSSION: Unit objectives should be discussed orally.		Student handbook
Communicating *Observing* *Interpreting* *Explaining* *Recording*	MASTERY LIST: Pronounce the words in the mastery list for the students and brainstorm with them on the definition of each.		Student handbook
Recording *Observing*	FILM: "MEDICAL TECHNOLOGY" Have students record their observations as precisely as they can.		16 M.M. film projector
Communicating *Interpreting*	1) In the discussion, students should be able to relate their observations from the film to their knowledge of the words on the mastery list.		Student handbook Handouts on Medical Technology
Inferring *Explaining*	2) It is suggested that students be given handouts on Medical Technology.		

LEARNING PROCESS	ACTIVITIES	NOTES	MATERIALS
	3) Have students define Medical Technology.		
Observation *Comparing and contrasting*	GUEST SPEAKER	General information on medical technology. Categories will probably develop in terms of: 1. a) medical technologist b) medical lab technician c) certified lab assistant d) pathologist 2. Job responsibilities will be given for each category. 3. Places of employment and educational requirements will be discussed.	Student handbook
Recording *Interpreting* *Communicating* *Analyzing*	BRAINSTORMING Brainstorm with the class about other categories or tasks related to the field of Medical Technology. Some general definitions are given in the student handbook.	Suggested categories: a) Blood bank technologist b) Cytotechnology c) Nuclear Technologist d) Histologic Technologist	Student handbook

LEARNING PROCESS	ACTIVITIES	NOTES	MATERIALS
	Brainstorming (Cont'd)	e) Certified Laboratory Assistant f) Chemistry Technologist g) Microbiologist	Book - Introduction to the Profession of Medical Technology, by M. Ruth Williams.
Observation *Recording*	FACT SHEET Discuss and use visual aids while introducing students to some of the instruments and equipment used by the Medical Technologist.	Suggested instruments and equipment to discuss: microtomes distillation apparatus centrifuge microscopes incubators flasks pipettes condensers test tubes colorimeter automated electronic analyzers	Reference materials Student handbook Handouts
Observing *Interpreting* *Recording*	FACT SHEET Conversion of the English measurement system to the Metric system.	Discuss with the students why the Metric System is so important to the Medical Profession.	Handouts Student handbook

LEARNING PROCESS	ACTIVITIES	NOTES	MATERIALS
Interpreting *Explaining* *Recording*	**EVALUATION** It is suggested that students answer the questions in their handbook relating to conversion.	The answers given by the students will determine if there is a need for further study on the subject.	Student handbook
Recording *Communicating*	**GUEST SPEAKER** Question and Answer period.	The guest speaker will demonstrate the use of the metric system while doing some scientific experiments.	
Recording *Observing* *Interpreting* *Communicating*	**BRAINSTORMING** A) Ask students to indicate their understanding of Genetics. B) Have students indicate their understanding of: 1) blood test 2) blood type 3) blood transfusions C) Have students indicate their understanding of how abnormal offsprings are produced when certain blood types are mixed at conception.	After brainstorming it is most important that the students are exposed to basic genetic theory.	Student handbook Reference books

LEARNING PROCESS

Communicating

Interpreting

Recording

Explaining

Comparing and Contrasting

ACTIVITIES

From the FACT SHEET:

Discuss with students in detail the following questions or statements:

1) The four groups or types of human blood: (1)A, (2)B, (3)AB, (4)O.

2) Mixing the wrong blood types can cause fatal injury.

3) A person with Type O blood is considered a Universal donor.

4) The four blood types are inherited and can be found in all races.

5) What are the Rh factors and how do they relate to each other? (Rh-negative and Rh-positive)

6) Why is it important for parents of child bearing age to know their blood type?

Supplementary Information:

Supply additional information on blood types and blood diseases.

NOTES

MATERIALS

Student handbook
magazines
newspapers
photographs
drawings
reference books

LEARNING PROCESS	ACTIVITIES	NOTES	MATERIALS
	DEMONSTRATION		
Observation *Interpretation* *Comparing and Contrasting*	1. Demonstrate to the class the proper procedure in blood typing.		
	2. After the demonstration provide the students with a blood typing kit to do some blood typing on their own.		Blood typing kits
	EVALUATION		
Recording *Interpretation*	Have students answer the questions from their handbook on blood.		Student handbook
	LECTURE		
Interpretation *Observation* *Recording*	1. A discussion on cells and blood cells.		Student handbook
	2. The role of the microscope in the study of cells and blood cells.		reference books microscope
	3. The major functions of the red cells and the white cells.		
	4. The relationship of the study of cells and blood cells to the area of medical technology.		

LEARNING PROCESS	ACTIVITIES	NOTES	MATERIALS
	LABORATORY EXPERIMENTS		
Observing *Interpreting* *Comparing and Contrasting* *Analyzing*	1) Ask the students to compare and contrast characteristics of red and white cells on a slide. 2) Have the students look at the break up of red blood cells when placed in water as compared to red blood cells placed in saline.	It is suggested that students be given a demonstration of the proper procedure for both activities.	Microscope Slides of red and white blood cells.
	LABORATORY EXPERIMENT		
Observing *Interpreting* *Recording* *Analyzing*	1) Provide students with blood samples showing clotting and non-clotting with anti-coagulants. 2) Have students view the samples under a microscope and comment on their findings.		Microscope Blood samples showing clotting and non-clotting with anti-coagulants.
	LABORATORY EXPERIMENT		
Observation	In a Laboratory setting illustrate for the students the kinds of experiments they can expect to see in each of the following categories: a) Hematology b) Microanalysis (urine) c) Microbiology	It is suggested that this activity be done at the Allied Health Center. A resource person may be used if you find it necessary.	Laboratory lab equipment

LEARNING PROCESS	ACTIVITIES	NOTES	MATERIALS
	Laboratory Experiment (cont'd)	d) Chemistry e) Histology (tissue) f) Cytology (smears) g) Seriology (serum other than Chemistry)	
Communicating *Interpreting* *Recording*	BRAINSTORMING 1) Definition of diagnosis 2) Medical technology team role/function to the doctor. 3) Relationship of diagnostic services to the Health care team.		Student handbook
Observation *Interpretation* *Recording*	FILM: "DIAGNOSTIC SERVICES"		Student Handbook 16 M.M. film projector
Comparing and Contrasting *Analyzing*	LABORATORY EXPERIMENT 1. Ask students to prepare a culture slide of bacteria from their hands before and after washing.	Provide the students with a demonstration on how to make a bacteria culture from their hands.	Microscopes slides

LEARNING PROCESS	ACTIVITIES	NOTES	MATERIALS
	BRAINSTORMING		Student handbook reference books.
Communicating	1) Have the students discuss the importance of accuracy in: a) testing b) recording c) reporting 2) Kinds of laboratory mistakes that can cost a life. 3) Kinds of laboratory mistakes that can cost loss of money.		
Interpreting *Recording*	Have students prepare a lab form.	Demonstrate how to properly prepare lab forms.	Lab forms
	FIELD TRIP		
Observing *Communicating* *Recording*	Mt. Sinai Hospital: Students should see a demonstration of the EKG and EEG machines. The X-ray department will also be visited.	Provide students with background information on the equipment they will see before the field trip.	
	BRAINSTORMING		
Communicating *Analyzing* *Recording*	Brainstorm the legalities associated with Medical Technology.		

UNIT III

NUTRITION

NUTRITION

LEARNING PROCESS	ACTIVITIES	NOTES	MATERIALS
Mastery *Communicating*	**Pronounce the words for the students** and have them find the definition of each.	Check resource materials	Student handbook Reference materials
Explaining *Inferring* *Observing*	Discuss the two major functions of the digestive system: 1. Digestion 2. Absorption	Refer to the digestive system diagram	Student handbook
Brainstorming	Brainstorm with the students the function of each organ shown in the diagram of the digestive system.	Refer to the diagram of the digestive system.	Student handbook
Explaining *Observing*	**Discuss some of the basic materials** that cells need to grow and remain healthy.	Have students learn the six basic materials defined in their handbook.	Student handbook
Observing *Interpreting* *Explaining* *Inferring*	FILM: "Food: The Color of Life" This film is suggested as an introduction to Nutrition.	Film available at Conn. State Department of Health-Public Health Education Section	**Film Projector**
Observing *Interpreting* *Explaining* *Inferring*	FILM: "Hunger in America"--Optional	Film available at Conn. State Department of Health-Public Health Education Section	Film Projector
Observing *Interpreting* *Offering Alternatives* *Explaining* *Inferring*	FILM: "Food that Builds Good Health" Exercise to demonstrate the students' understanding of information shown in the film on nutrition.	Film shows four major food groups and how the body uses the nutrients from these foods. (B&W, 11 min.) Available at Connecticut State Department of Health, Education Section, and the University of Connecticut Film Library.	Film Projector

LEARNING PROCESS	ACTIVITIES	NOTES	MATERIALS
Brainstorming	Have students brainstorm on what are good food habits and bad food habits.		
Communicating Observing Interpreting Offering Alternatives Explaining Inferring	FILM: "Human Body: Nutrition and Metabolism" Suggested discussion and writing questions: 1) Does this film depict a better understanding of nutrition than the first one? 2) What are the five classes of chemical substances which comprise all natural foods?	Available at Connecticut State Department of Health, Education Section (B&W, 14 min.)	Film Projector Student handbook

LEARNING PROCESS	ACTIVITIES	NOTES	MATERIALS
Recording	FACT SHEET 1) Discuss why nutrients are important to the body.	The five main groups of nutrients are carbohydrates, fats, proteins, minerals, and vitamins.	Student handbook reference books
Comparing and Contrasting	2) Discuss the specific functions of the five main groups of nutrients. 3) Discuss calories and their relationship to energy. Characteristics affecting calorie requirements. 4) Ask students to orally name the vitamins. Discuss.	Refer to student handbook for specific categories.	
Recording *Interpreting* *Analyzing*	FILM: "Understanding Vitamins" Suggested discussion and questions to be answered. 1) Discuss the areas covered in the film before having them answer the questions. 2) Kind of vitamin deficiency that causes scurvy. 3) What is metabolism? 4) The role of vitamins in body regulation.	The film shows the preventative steps for some of the earlier-known vitamin deficiency diseases like scurvy. (Color, 14 min.) Available at Connecticut State Department of Health, Public Health Education Section, and also University of Connecticut Film Library.	Film projector Student handbook
Comparing and Contrasting *Interpreting* *Recording*	HOMEWORK: Ask students to critique: The Basic Seven Group and their vitamin counterpart. The difference between the Basic Seven Group and the Basic Four Group.		Student handbook

LEARNING PROCESS	ACTIVITIES	NOTES	MATERIALS
Observation *Interpretation* *Comparing and Contrasting*	FILM: "EAT FOR HEALTH" Discuss the students' interpretation of this film with the past homework assignment. Were the students' observations about the food groups correct? Were their suggestions accurate? Compare and contrast the homework and the film segment.	Film identifies a basic food group with each finger. (B & W), 11 min.	Student Handbook Last Homework Assignment
	Optional Assignment: Constructing a poster illustrating the Basic Seven Food Group.		Photos Magazines Newspapers Drawings
Observation	FILM: "Towards the Victory of Health" Discussion after viewing the film will be at the discretion of the teacher.	Discuss developments in nutrition. Describes the development of dietetics in hospitals and other institutions.	Film projector
Communicating *Interpreting* *Comparing and Contrasting* *Recording* *Analyzing*	BRAINSTORMING Discuss with students the relationship of nutrients to the food we eat and body needs: a) Carbohydrates b) Proteins c) Fats d) Minerals e) Vitamins	Categories will probably develop in terms of; a) Carbohydrates b) Proteins c) Fats d) Minerals: potassium, iodine, sulfur, calcium, phosphorus, magnesium, sodium. e) Vitamins f) Water	Optional Overhead projector Film Strip " reference books
	GUEST SPEAKER		

LEARNING PROCESS	ACTIVITIES	NOTES	MATERIALS
Recording	Ask students to list the amount of carbohydrates and calories and proteins listed in the five food groups in the student handbook.	It is suggested that the students be allowed to use resource materials in completing this activity.	Student handbook reference books
Observing *Interpreting*	FILMS: "BIG DINNER TABLE" "MENU PLANNING" Suggested discussion: a) How did each nationality differ in their food selection and preparation habits? b) What are the body's need for food? c) Where do you find dietitians employed?		Student Handbook Reference books
Recording *Interpreting*	FACT SHEET A) Discuss the problems brought about by the lack of not eating a balanced diet. B) Stress the importance of the skills of the dietitans and their related areas to the health of all people.	It is suggested that students identify and integrate their knowledge of nutrition to the role of dietitians.	Student Handbook
Communicating *Interpreting* *Recording* *Explaining*	BRAINSTORMING A) Ask students to indicate their understanding of the role of dietitians by answering the questions	This method of providing information is optional.	Reference Materials Student Handbook

LEARNING PROCESS	ACTIVITIES	NOTES	MATERIALS
	in their workbook. B) Have students brainstorm all the activities of the dietitian as it relates to the different job descriptions. Example - 1. Clinical Dietitian 2. Food service supervisor 3. Dietetic assistant 4. Dietetic technician		
Communicating *Recording* *Observing*	FIELD TRIP Students will visit a facility that can properly display the role of a dietitian.	Optional: a) hospital food service b) school cafeteria c) local restaurant d) dairy	Transportation 1) Bus 2) Cars
	GUEST SPEAKER		
	GLOSSARY Discuss with the students the terminology in the Glossary.		

UNIT IV

REHABILITATION

REHABILITATION

LEARNING PROCESS	ACTIVITIES	NOTES	MATERIALS
	I. INTRODUCTION TO REHABILITATION Questions: What is Rehabilitation? What are its major areas? What is some of the major terminology associated with the field of rehabilitation? Objectives: 1) Students should be able to state the occupations included in the field of rehabilitation therapy. 2) Students should be able to name some disabilities commonly requiring the assistance of a rehabilitation therapist. 3) Students should become aware of the role of a therapist in restoring a patient to usefulness.	1. It is suggested that the student continue to maintain the PROCESS SKILL CHART of occupations and tasks begun in Unit I. 2. It is further suggested that the instructor introduce the mastery list of objectives and terminology during the initial stages of the unit. This, is not only to acquaint the students with unit objectives and expectations, but also to reinforce the necessity of mastering spelling, vocabulary, etc. Small exercises in word usage and spelling should appear intermittently throughout the unit. Be sure to provide students with phonetic pronunciation of each major vocabulary word.	
	1) Ask the students to think of and record as many disabilities as they	At this point, students must complete this assignment	

LEARNING PROCESS	ACTIVITIES	NOTES	MATERIALS
Recording *Observing*	can which might be associated with rehabilitation. The assignment may be treated as a type of pre-test which will enable the teacher to note the superficial extent of students knowledge.	based only upon their individual impressions of "rehabilitation."	
Communicating	2) During the following class discussion, elicit the meaning of the term rehabilitation and ask the students to name and discuss the entries on their lists in terms of that meaning.		
Forming Concepts	The teacher may accomplish this in one of several ways. The students can use dictionaries, pamphlets, etc. to find the medical definition, or the teacher can prepare several sentences which convey the meaning through context. It is also quite probable that understanding may initially be apparent, cancelling the need for other eliciting techniques.		Dictionaries Pamphlets Sentences
Compare/Contrast *Record*	3) Introduce Vocabulary List·I. Discuss each word briefly (compare their meanings) and remind students that one initial objective will be to master spelling and meaning of these words by the completion of the Introduction to Rehabilitation segment of the unit.		Unit Packet

LEARNING PROCESS	ACTIVITIES	NOTES	MATERIALS
	4) FILM - ACCENT ON USE		Film
Observe *Interpret data* *Record* *Compare/Contrast*	Questions to think about: a) What is the role of a Rehabilitation Therapist in helping a patient? b) What type of disabilities were seen that required the services of a therapist?		
	c) List the specific skills performed. Compare and contrast these skills. Note the different people in rehabilitation performing these skills. Call the students' attention to the fact that the field of rehabilitation is divided up into several more specific areas. These areas are recorded in the student Handbook on the the introductory pages.		Student Packet
People, Data, Things Strategy	d) Do most of the therapists in rehabilitation deal with people, with data, or with things?		

LEARNING PROCESS	ACTIVITIES	NOTES	MATERIALS
	Introduce the concept of rating occupations in terms of people, data, and things.	See Unit Two - 7th and 8th grade, Mental Health for a more complete breakdown of this strategy.	
Observe *Record* *Contrast Photos* *Communicate*	Homework: Unit homework project - Develop a notebook/scrapbook illustrating disabilities requiring rehabilitative treatment. Be sure to label each picture or photograph in terms of the type of rehabilitative care it depicts.		1) Paper 2) Magazines 3) Newspapers 4) Pens 5) Unit Handbook as reference.
Affective Domain	Psychological Aspects of Loss - 1) Ask students to function for a short period of time, with the option to continue over a twenty-four hour period, with a physical impairment.		Blindfold Sock Mitten Sling Crutches Wheelchair
Communicate *Compare/Contrast*	For example: a) Blindfold to simulate blindness. b) Sock mitten to simulate the experiences of a person who has lost the use of a hand. c) Arm sling d) Crutch (leg problem) e) Wheelchair (leg problem and mobility)		

LEARNING PROCESS

ACTIVITIES

Select several single tasks. Ask students to perform them and to describe to the class their feelings and any difficulties they encountered in terms of capabilities.

Suggested Tasks:

a) Sweep a floor while in a wheelchair.

b) Tie a shoelace while in a wheelchair.

c) Find things in the dark with only the use of one eye.

d) Climb stairs with crutches.

Evaluation Questions:

1. How did you feel?
2. What did you feel were the reactions of others to you?
3. How long did it take you to get adjusted to your disability?
4. How would you help someone else adjust to this experience.

NOTES

MATERIALS

Student Handbook

LEARNING PROCESS	ACTIVITIES	NOTES	MATERIALS
Affective Domain *Observe* *Communicate*	2) Guest Speaker - Arrange to have a young person who has experienced a function loss and rehabilitative treatment to speak with the class about his/her feelings, adjustments, concerns, and aspirations. Following this presentation, allow for a discussion/question and answer session.		Speaker
	Culminating Activity - As a review of the major concepts and information studied during the introductory phase of the unit, ask the students to record their answers to the review mastery questions in the Student Handbook. 1) What is Rehabilitation? 2) Define disability. 3) List at least 5 activities of a Rehabilition Therapist. 4) How do you feel about a person with a disability? 5) List some of the problems that you think you would encounter in working with a disabled person.		Student Handbook

LEARNING PROCESS	ACTIVITIES	NOTES	MATERIALS
	II. PHYSICAL THERAPY		
Observe *Analyze*	A. Film - Decision(National Association of Physical Therapy)		Film
Record *Analyze*	Assignment - Complete and discuss the questions in the student handbook.		Questions in Handbook
	What kinds of career choices are shown in the film?		
	What skills are involved in each?		
	What are some of the duties of of physical therapist?		
	What is the required educational training for each position?		
People, Data, Things	Review People, Data, Things approach for appraising occupations life styles.		
Interpret Data	Rate the interaction of a physical therapist with people, data and things on a scale of 1 - 10(1 is the lowest, 10 the highest).		
Compare/Contrast *Generalize* *Communicate*	Ask student to explain and justify their scales based on the information they acquired from the film.		

LEARNING PROCESS	ACTIVITIES	NOTES	MATERIALS
	B. Equipment: What are the major tools of the Physical Therapist?		
Observe	1. Distribute photographs of equipment for perusal. Look carefully at each and;		Photographs a) Wheelchair b) Casts c) Braces d) Crutches
Record	2. Label each peice of equipment.		
Analyze *Predict*	3. From its appearance, what use might each tool have? Describe it.		Actual Equipment
Generalize	4. Ask students to match each photograph with the actual price of equipment. Are there adjustment knobs or levers? If there are, what background information and skills would you need to acquire in order to use this equipment properly? What skills are necessary in order to be sure that your adjustments and application of use would not be harmful to your patient? Try to help students see that an in-depth understanding of the muscular/skeletal system is necessary for success in physical therapy.		

LEARNING PROCESS	ACTIVITIES	NOTES	MATERIALS
Record *Communicate*	As an ongoing assignment, supply students with vocabulary, spelling and grammar lessons which emphasize the equipment of the physical therapist and the parts and functions of the muscular/skeletal system.	It is important that the students have, not only a verbal ability to communicate this information, but a written competency as well.	Grammar Spelling Vocabulary Worksheets

LEARNING PROCESS	ACTIVITIES	NOTES	MATERIALS
	III. THE MUSCULAR-SKELETAL SYSTEM		
	A. Types of Joints -		
Observe	1. Bring in a model of the human skeleton. Allow students the time to carefully inspect and observe the anatomy of the human body - placement and organization of bones and joints.	This skeleton should be available throughout the unit so that as the students acquire more specific knowledge they can refer back to it.	Model
	Point out and demonstrate the placement and movement of the 5 major joint types: 1) Ball and Socket 2) Saddle 3) Hinge 4) Pivot 5) Plane		
Communicate	2. Distribute diagrams and drawings of these. Ask students to study each carefully.	Reference Texts: King and Showers. Anatomy and Physiology, W. B. Saunders Co; 1967	Diagrams and drawings of joints.
Interpret data	Discuss each - their similarities and differences, occurences in the body.	Diagrams of Bones, Muscles, joints.	

LEARNING PROCESS	ACTIVITIES	NOTES	MATERIALS
	Use Skeleton:	Memmlar and Rada. Structure and Function of the Human Body	
Compare/Contrast	a) Do the parts of each type of joint move in unison?		
	b) Do they move in the same direction or opposite each other?		
	c) How do they move? (slide, etc.)		
	d) How much movement is allowed by each type of joint?		
	e) Where does each occur? Give 1 or 2 examples.		
Hypothesize	3. Joint Malfunction - a) How would malfunction of a joint affect a person's mobility or limit the use of his limb? b) How could rehabilitative treatment help? Briefly hypothesize about this. The main purpose of this is to help the student further understand the connection between the muscular/skeletal system and rehabilitation.		
Observe Record Compare/Contrast	Assignment - Draw and label each type of joint. Write one or two main facts about each one. For example, the degree of mobility and location.		Paper Pens Diagrams as references

LEARNING PROCESS	ACTIVITIES	NOTES	MATERIALS
Observe	B. Bones - Skeletal System 1. Exhibit a cow's skeleton. Ask students to note the bone structure, types of joints and position of joints.		Cow's skeleton (acquired through TACT staff)
	2. Identify and demonstrate the use of the types of joints observed.		
Compare/Contrast	3. Briefly compare and contrast the cow skeleton and the human skeleton. Ask students to carefully inspect the skeleton. What do the bones look like? What do they feel like?		Anatomy charts as reference
Observe	4. Observe, draw and identify slides of bone cross-sections.		1) Slides of bone cross-sections. 2) Microscopes 3) Drawing paper
Record *Explain*	What are the major characteristics of bone?		
Experiment	Draw the Hoversian system of compact bone that is easily seen on the cross-section, consisting of concentric layers or lamella surrounding a central canal.		

LEARNING PROCESS	ACTIVITIES	NOTES	MATERIALS
	5. Class discussion of the composition and structure of bone.		
Listening Skills	6. Give students a brief explanation of the growth and repair of bone.	Slides, diagrams, and notes may be available from the American Red Cross. Also, First Aid information if available.	Student Handbook
Record *Analyze*	Afterwards, refer them to the student Packet questions for completion and discussion.		
	a) Do bones repair themselves correctly all of the time?		
	b) What are 2 things a person can do to aid successful repair?		
	c) Briefly describe how a bone break repairs itself.		
Interpret Data	7. Read about and discuss the functions of the skeletal system and the process of bone repair.	Reading assignments to be designated.	Student Handbook
Form Concepts	Stress that the bones form a solid base for muscle attachment.		

LEARNING PROCESS	ACTIVITIES	NOTES	MATERIALS
Observe *Experiment*	OPTIONAL - Using the human skeleton, locate and identify some of the major bones. e.g. - tibia, femur, tarsals, mandible, clavicle, vertibra, pelvic girdle, humerus radius, scapula, ribs, etc.	To do the above activity, students must be provided with reference charts and diagrams. It is also suggested that a blank skeleton worksheet be distributed to each student.	Skeleton, Demonstration charts, Vocabulary sheets, Literature about the skeletal system.

LEARNING PROCESS	ACTIVITIES	NOTES	MATERIALS
	C. Muscles		
Observe Experiment	1. Observe and study cross section slides of the 3 muscle types - striated cardiac smooth		Slides Anatomy Charts Microscope Drawing Paper Handbook
Record	Have students draw what they see, being sure to label each drawing properly.		
Analyze Data	Discuss the differences between the 3 types in terms of appearance and function.		
Predict and Explain	Where does each type occur? What makes it so well suited to perform its function at each location?		
Observe	2. Ask one of the school's football heroes to come to class and display muscle movement.		Football hero
Communicate	Have class discuss how the movement of the muscles differs from the movement of the joints.		
Observe Analyze	Provide the class with simple drawings of how a muscle contracts.		Drawings of muscle contraction.
Interpret	Discuss them.		

LEARNING PROCESS	ACTIVITIES	NOTES	MATERIALS
	D. Disabilities of the Muscular/Skeletal System		
Brainstorm	1. Ask students to brainstorm possible disabilities of the muscular/skeletal system.		
Predict and Explain	Add any new ones coming up to the list of disabilities formed during Unit I.	This list should be maintained throughout all of the units.	
Analyze	What form of rehabilitative treatment is associated with these disabilities to alluviate problems and restore, in some cases, function?		
Observe	2. GUEST SPEAKER - Physical Therapist -		
Listening Skills	Ask a local physical therapist to provide information on careers in physical therapy and the importance of understanding anatomy and physiology to those careers. Question and Answer period to follow.		Speaker
	PROJECT ASSIGNMENT - At this point, allow the students to choose one of the 2 major unit projects.		
	1. Describe one major limb according to the type of bone,		

LEARNING PROCESS	ACTIVITIES	NOTES	MATERIALS
	muscle and joints present in it. OR 2. Build a limb. Show the type of joint present and the relative size.		
	REVIEW ACTIVITIES -		
Observe *Measure* *Interpret* *Analyze* *Explain*	1. Refer students to the 9 culminating activities and questions in the student handbook. These re-emphasize the importance of a scientific knowledge of anatomy and physiology.		Student Handbook
Observe *Experiment* *Compare/Contrast* *Explain* *Interpret* *Communicate*	2. To further augment the students' ability to complete the Unit Project and culminating activities, teacher should, on video-tape dissect a frog for the class to show how the bone, muscles and joints are related and inter-connected. An oral presentation and demonstration should accompany the dissection. Also, suggested, is		Video-tape Frog dissection kit Diagrams to accompany dissection.

LEARNING PROCESS	ACTIVITIES	NOTES	MATERIALS
	that dissection diagrams be distributed to all of the students so that they can view the dissection from that very clear perspective as well as from the video-tape.		
Experiment *Observe* *Record* *Interpret Data* *Analyze* *Interpret*	3. Provide a frog for each pair of students to dissect. Direct each team to limit their work and study to one major limb. Direct them to identify all of the bones in that limb. Also, students should be able to name and identify the primary muscles and joints. It is also suggested that they should attempt to draw what they see.	Provide students with reference materials and diagrams of the frog before beginning the dissection.	Frog dissection kits.

LEARNING PROCESS	ACTIVITIES	NOTES	MATERIALS
	IV. SKILLS AND ACTIVITIES OF THE PHYSICAL THERAPIST		
	1. Field Trip -		
Observe Listen Interpret Form Concepts Analyze Communicate Explain	Select a few students to take a field trip to some institution to observe the skills and activities of a Physical Therapist, such as a) Massage b) Passive Exercise c) Use of Crutches d) Use of Body Mechanics e) Hydro-Therapy		Field trip Planned agenda
	Be sure to video-tape this visit so that the other students can view it upon your return to school. Also observed will be other types of tools and equipment and their proper application and use.		Video-tape
Observe	2. As a total class activity allow students to view the video-tape made by their classmates on the field trip. Provide each student with a printed list of all materials observed and demonstrated on the trip.		
Compare/Contrast	As students view the film, request that students compare their printed list with actual observations made from the tape.		

LEARNING PROCESS	ACTIVITIES	NOTES	MATERIALS
Observe *Communicate*	3. Ask a physical therapist to return to class with several major pieces of therapy equipment and to demonstrate the use of each. Have students practice using each.		Physical Therapist Tools and Instruments used.
Communicate *Experiment*	4. Role Playing - Divide the students into working teams. Set up several role-playing situations; ask one student to act as the patient, the other as the therapist. Each student should be able to demonstrate some degree of proficiency in describing and executing the proper use of each piece of equipment. Also stress the element of personal contact with the patient and the importance of good rapport.	A model for setting up a role-play situation may be found in: Joyce Bruce R. and M. Wiel. Three Teaching Strategies; Science Research Associates, 1972.	Role-Play situations
Record *Interpret* *Analyze* *Measure* *Explain*	Have each "therapist" of the team practice filling out patient data sheets. Record keeping must also be emphasized. For recording, data sheets will include space to enter the "patient's" name, address, height, weight, problem, visit entries, type of treatment, medication and prescriptions, if any.	Record keeping should be a thread woven into each TACT unit. Accurate records are vital to successful implementation of skills in any field.	Dummy data sheets.

LEARNING PROCESS	ACTIVITIES	NOTES	MATERIALS
	Final Unit Activity - Have each student explain and/or demonstrate his/her project assignment on the muscular/skeletal system.		
	MASTERY QUIZ		

UNIT V

NURSING

NURSING

LEARNING PROCESS	ACTIVITIES	NOTES	MATERIALS
Recording *Communicating* *Interpreting* *Explaining*	Introduction lecture on nursing and why the field of nursing is important to our society.		**1. Student handbook** **2. "The Nurse Aide" Joan Donovan Edith Belsjoe Daniel Dillon** **3. Nursing Skills for Health Services Lucille A. Wood**
Recording *Interpreting* *Explaining*	Have students define the vocabulary words in their handbook you feel that they should know. (Homework)	**These terms should be learned and become a part of each student's vocabulary.**	**Student Handbook**
Interpreting *Explaining*	Students should be asked to spell and define the assigned words.		**Paper**
Communicating *Interpreting* *Explaining*	Discuss the lists of commonly used abbreviations in Nursing. Have each student learn the meaning of each abbreviation. (Homework assignment)		**Student Hankbook**
Interpreting *Evaluation*	Exam on the assigned commonly used abbreviations		**Paper**

LEARNING PROCESS	ACTIVITIES	NOTES	MATERIALS
Recording *Explaining* *Comparing and Contrasting*	Brainstorm with the class the duties of 1) general-duty nurse 2) head nurse		film slides Reference books
Interpreting	Have students role play the duties of a general duty nurse and a head nurse.		
Recording *Explaining* *Comparing and Contrasting*	Brainstorm with the class the duties of a private-duty nurse and a public health nurse.		film slides Reference books
Interpreting *Comparing and Contrasting*	1) Have students role play the duties of a private-duty nurse and a public health nurse. 2) After the role playing exercise, have students compare and contrast the duties and responsibilities of both.		
Interpreting *Explaining*	1) Brainstorm about the duties an occupational (industrial) health nurse has. 2) Brainstorm about the duties of nurses who are working as educators.		Student Handbook

LEARNING PROCESS	ACTIVITIES	NOTES	MATERIALS
Recording *Observe* *Generalize*	Discuss with the students general information about Registered Nurses(R.N.) Suggested topics: a) where are R.N.'s found working b) some specialized areas R.N.'s are employed		Student handbook Resource materials
Compare/Contrast *Generalize*	Compare and contrast the duties of a Registered nurse with the duties of a: a) occupational or industrial nurse b) private-duty nurse c) public health nurse d) hospital nurse 1. general duty nurse 2. head duty nurse		
Discussion *Compare/Contrast*	Have the class discuss the educational requirements for professional nurses. a) Baccalaureate b) Associate c) Diploma		Student handbook hand-outs
Discussion	Discuss with the class the educational requirements for a Licensed Practical Nurse (L.P.N.)		

LEARNING PROCESS	ACTIVITIES	NOTES	MATERIALS
Brainstorming	Brainstorm with the class: a) duties and responsibilities of a L.P.N. b) where L.P.N. can be found working c) some specialized areas L.P.N.'s are employed with advanced training.		Student Handbook hand-outs
Observation *Analyzing* *Recording*	A) Demonstrate for the class the proper order of a hospital room with the use of slides and photographs. B) Have students write an essay on how a proper hospital room should look. C) Ask students to describe how a hospital room can be improved.		
Homework *Interpreting* *Comparing* *Analyzing*	HOMEWORK ASSIGNMENT a) ask students to bring to class pictures and drawings of a hospital room setting. b) have them discuss why the rooms are arranged the way they are.		
Brainstorming	Brainstorm with the students about the basic equipment used by nurses while treating patients in a hospital room		Resource materials

LEARNING PROCESS	ACTIVITIES	NOTES	MATERIALS
Interpreting *Explaining* *Recording* *Evaluation*	Discuss with the students the code of ethics for nurses: A) Registered Nurse B) Licensed Practical Nurse C) Nurse Aide	The code of ethics should be thoroughly covered in order that students can be aware of the responsibilities of nurses from the ethical standpoint.	Student handbook resource materials
Interpreting *Explaining* *Recording* *Evaluation* *Comparing and Contrasting*	Brainstorm with the students the relationship of the individual nurses code of ethics with the international code of ethics.		Student handbook resource materials
Interpreting	Brainstorm with the class the legal responsibilities of a nurse.		
Recording *Interpretation* *Comparing and Contrasting*	Brainstorm with your students on the importance of handwashing by nurses. a) how could the life of a patient and a nurse be affected by not utilizing proper handwashing techniques? b) see student handbook		Student handbook resource materials

LEARNING PROCESS	ACTIVITIES	NOTES	MATERIALS
Interpretation *Contrasting*	Brainstorm with your students about the importance of properly made hospital beds.		Resource materials
Observation *Recording*	Film or Demonstration should be provided for the students on proper bed making techniques.		
Observation *Comparing and Contrasting* *Recording*	1) Demonstrate for the students with the use of slides and photographs how a nurse assists the patients in dressing and undressing. 2) After observation ask the students to demonstrate the proper way of dressing and undressing a patient. 3) Have students list some of the difficulties they had in demonstrating what they had observed. 4) Ask the students to list ways they feel can improve the dressing and undressing of patients.		
Observation *Interpretation* *Comparing and Contrasting* *Analyzing*	Brainstorm with the class the differences i in the following types of bath: a. bed bath b. tub bath c. sitz bath		

LEARNING PROCESS	ACTIVITIES	NOTES	MATERIALS
	Give the class a demonstration on the proper way to administer each type of bath, and the equipment used with each.		
Analyzing *Recording* *Interpretating*	Brainstorm with the class about other patient care needs such as: 1. back rubbing 2. hair care 3. morning care 4. body waste elimination 5. skin care 6. etc.		
Recording *Comparing and Contrasting* *Analyzing*	Brainstorm with the class the importance of therapeutic diets. Specifically how does the diet of a diabetic patient differ from the diet of a patient with an intestinal disorder? A patient with a heart disease?		
Analyzing *Recording*	Brainstorm with the students the purposes of isolating patients. See student handbook.		